DOCUMENT RESUME

ED 422 520 CE 077 069

AUTHOR	Smith, Chris Selby; Hawke, Geof; McDonald, Rod; Smith, Joy Selby
TITLE	The Impact of Research on VET Decision Making.
INSTITUTION	National Centre for Vocational Education Research, Leabrook (Australia).
SPONS AGENCY	Australian National Training Authority, Brisbane.
ISBN	ISBN-0-87397-475-1
PUB DATE	1998-00-00
NOTE	170p.
AVAILABLE FROM	National Centre for Vocational Education Research, 252 Kensington Road, Leabrook, South Australia 5068, Australia; email: ncver@ncver.edu.au; World Wide Web: http://www.ncver.edu.au/
PUB TYPE	Books (010) -- Reports - Research (143)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Case Studies; Conferences; *Decision Making; *Educational Policy; *Educational Research; Foreign Countries; Influences; Job Training; Literature Reviews; *Policy Formation; Postsecondary Education; *Research Utilization; Secondary Education; Theory Practice Relationship; *Vocational Education
IDENTIFIERS	*Australia; Impact Studies

ABSTRACT

A project was conducted to examine the impact of vocational education and training (VET) research on decision making in VET in Australia. Data were collected from the following: a literature review; a symposium attended by state-, territory-, and national-level VET policymakers and planners and VET providers; semistructured telephone interviews with 50 VET decision makers on their use of VET research; nine case studies; and development of a background paper on overseas findings and perspectives. Direct awareness of research findings among key decision makers was low. Many had little or no awareness of sources of research information. Although senior decision makers frequently operated on the basis of briefing papers that most likely had a strong basis in research, they were generally unaware that research findings had any impact on their decision making. Because the volatile policy climate for VET and the time pressures on key players all tend to militate against the considered use of data as a component of decision making, many VET-related decisions were being made without referencing important research-based information. (Appended are the background paper for the Impact Project and the symposium program.) (MN)

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on VET decision making

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Chris Selby Smith, Geof Hawke, Rod McDonald and Joy Selby Smith

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ISBN 0 87397 475 1
TD/TNC 55.01

Published by NCVER
252 Kensington Road
Leabrook SA 5068
AUSTRALIA

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The synthesis of the Impact Project[1]

1 The research question

In April 1996, the Australian National Training Authority Research Advisory Council (ANTARAC) advertised that it would fund a research project to 'review the evidence for and where possible evaluate the extent of influence of research in vocational education and training'. The council said it was particularly interested in the impact of research in three areas: policy and planning; practice and performance; and community relations.

The motivation for setting up the study was not indicated in the brief. However, there have been suggestions that there is a degree of scepticism on the part of some stakeholders about the value of research and whether the money allocated to research is well spent. The report *No small change* (McDonald et al. 1993) had also argued that research in vocational education and training (VET) was fragmented and that links between research and policy and practice were weak, with little fundamental and general-issues-based research in VET and no strong critique of VET policies and programs. That report proposed the development of a national research and development (R&D) strategy for VET and identified the components to underpin it.

In 1996 the ANTA Board recognised the need for a more integrated research effort that would focus on providing advice to the wide range of VET stakeholders: the National Research and Evaluation Committee (NREC) was formed, as a sub-committee of the National Centre for Vocational Education Research (NCVER) Board, to ensure a more focussed approach to the national research and evaluation strategy. NCVER has now prepared for NREC *The national research and evaluation strategy for vocational education and training in Australia 1997-2000* (NCVER, 1997). A key component of the strategy is assuring that the best use is made of research and evaluation outcomes.

2 The investigation: Five complementary approaches

In the tender accepted by the funding body, the research team stated that:

> *we know from studies of the use and impact of research both within education and in*

> *similar areas that the relationship between research and its outcome is almost always complex and not easily discerned . . . (and that) . . . it is important to note that we do not expect to detect easily the impact of particular pieces of research.*

It was proposed therefore that the research question should be examined from a number of different perspectives. Five complementary approaches would be employed:

- a review of relevant literature, noting that there is no single approach to the issue of the impact of research, either generally or specifically in vocational education and training
- a symposium, to identify key issues promptly and draw on different perspectives and approaches to the research question
- quantitative studies to provide information on the scope and nature of the impact of research on VET
- case studies, to explore the influence of the factors identified in the literature and in discussion at the symposium in the context of particular situations (the case studies provide a richness that cannot be obtained from quantitative responses alone)
- a reference to overseas experience and perspectives with a paper setting out preliminary findings to be circulated to informed overseas commentators. Their responses would be incorporated in the final report[2]

The researchers also proposed, and the funding body accepted, that particular attention would be given to the impact of research on policy and planning, and practice and performance (referred to together as 'decision-making'). Less attention would be given to community relations aspects.

The findings to emerge from these approaches are included in the relevant chapters of the Impact Project report. This paper is a synthesis of the main findings. Of course, full understanding requires a reading of the complete report.

3 Not a simple question

The research question as specified would seem to imply an uncomplicated, linear relationship between research and decision-making. In fact, the relationship cannot be so simply described.

Research impact has been the subject of a number of studies in various areas of public policy. These studies have been carried out internationally and in Australia, including by members of the research team and symposium participants.[3] This accumulating knowledge brings us to a more sophisticated starting point.[4]

First, the idea of a one-to-one relationship between research and decision-making generally has been discredited. Rather, the perspectives that have been emphasised in the literature are that the larger impacts of research are more often indirect than direct; delayed rather than immediate; more minor individually but major in combination.

Research involves the accumulation of knowledge, as discussion at the symposium emphasised. Research contributes to the 'climate of opinion' and the development of 'ideas in good currency'. Of course, these perspectives do not imply that individual studies necessarily have no impact.

Secondly, the relationships between research and decision-making can be considered from two viewpoints: from that of research and from that of decision-making. The research viewpoint tends to narrow the perspective of the investigator to the research process and research outcomes (the 'key hole' problem) and downplay the complexity of decision-making. From the decision-making viewpoint the role of research is more diffuse, but not necessarily less influential.

The literature identifies a number of roles for research but it is the information role that has attracted most study. It has been argued that research provides 'new and better' information, that it is more 'rational' information and that the quality and accuracy of knowledge based on research is better than that obtained from 'reactive data gathering'. On the other hand, writers have also noted the 'incomplete nature' of much research-based information from the decision-makers' perspective: decision-makers can also draw on their own first-hand experience and many sources of direct information. The balanced view, it is argued, is to regard information derived from research as one of a number of sources of information available to decision-makers, and information from all sources as only one of a number of possible inputs into decision-making. 'On a good day, ideas [information] may gain a hearing amidst the swirl of political considerations but it must be a very good and rare day indeed when policy-makers take their cues mainly from scientific knowledge about the state of the world they hope to change or protect' (Brown 1991).

Thirdly, the strength of the linkages between research (and researchers) and decision-making (and decision-makers) also influences research impact. Contact between the two groups, not only at the close of a study, but also before and especially during its conduct can have a strong influence on impact and can result in 'the establishment of multiple areas of collaboration between the two parties which transcend the impact of a single study' (Huberman 1990). From a wider perspective, linkages between research and decision-making may also be facilitated through particular institutional arrangements including the media, key stakeholder organisations and other interest groups, and mechanisms such as funding arrangements, so that linkages might be conceptualised better as a 'web' or 'network' (Selby Smith et al. 1992).

These considerations have lead the research team to the view that to 'review the evidence for and where possible evaluate the extent of influence of research on vocational education and training' necessitates an understanding of the dynamics operating in each of the three areas: in decision-making, in research and in the web of linkages. To develop a response to the research question also requires that the meaning of the terms they employed, 'impact' and 'influence', be explored (Section 4). Only with this understanding is it possible to offer an answer to the research question (Section 5).

4 Developing the response

4.1 Impact: Use and influence

In the consultancy brief the funding body referred to the 'impact' of research on decision-making in the three areas of VET; their research question refers to 'influence'. At the symposium and in discussions with those undertaking the case studies it became clear that the ways in which research can have impact are more wide-ranging than direct effects on decision-making alone.

Thus, the case studies indicate that research can also have impact through raising awareness among VET stakeholders and in the wider community; and through enhancing the acceptance of the value of research approaches in VET institutions, thereby providing a better basis for policy and practice in the future. The case studies also indicate that decision-makers' involvement in the conduct of research projects can improve their understanding of particular issues. Research processes can also have an impact on the subjects of the research: Dwyer's case study shows that the involvement of young people in his research project contributed to a change in their attitudes towards VET and their readiness to recommend VET to others.

In this project we take the term 'impact' and define it to incorporate two elements: 'use' and 'influence'. 'Use' refers to whether the research has served a particular purpose. 'Influence' relates more closely to whether the research has had an effect on decision-making; that is, whether it has made a difference to the decision made. 'Use' can have several meanings depending upon the decision-making setting including: to solve a problem; to justify a prior decision; as a weapon in a political debate; and to improve conceptual understanding.[5]

The adoption of these meanings for impact, use and influence has a number of implications. First, it is implied that research can be used but not have an influence, in the sense of not making a difference to what would otherwise have been decided. But the question then is: what is the counterfactual? It would be difficult to establish in many, perhaps in most, situations, especially after the decision has been made and some time has elapsed, and where other factors also affect outcomes. '[The research findings] were used in the decision-making process as though it did have an impact . . . but, of course, it was going with the flow.'[6]

Secondly, research can influence decisions *not* to act as well as decisions to act. To resolve not to act is as legitimate an outcome of decision-making as to resolve to act. The Royal Melbourne Institute of Technology (RMIT) case study provides an example of research, which provided support for not radically changing existing practices. The influence of research on decisions not to act can often be difficult to establish.

Thirdly, whether research is used or has influence may not be recognised. The survey investigating the use of research by VET decision-makers found a low level of professed awareness of Australian VET research among those responsible for framing decisions; at the same time, middle level staff were providing advice to more senior decision-makers which the former recognised was based on research information.

Also, at the symposium, some senior VET decision-makers who were known to be working (currently) on major policy issues where the ideas were derived from an accumulation of research-based knowledge, claimed that research had little or no impact on their work!

4.2 Decision-making

Policy and planning

At the symposium, a senior State official commented:

> *It goes without saying that VET is operating in a highly complex environment, . . . actually more complex than higher education and many other service areas undergoing change under government policy at the moment. This arises in large part because of industry involvement and the very substantial government structures in place that don't exist in many other government areas. The result is that there is a myriad of co-ordinating arrangements and committees that make life anything but plain.*

A not dissimilar comment has been made in relation to the User Choice case study: that the VET decision-making setting is complex, complicated, dynamic and contested.

In Australia, both at the Commonwealth and at the State and Territory government levels, there are a variety of policy-making processes. A presenter at the symposium identified four main types and argued that each incorporates research very differently. They are:

- pragmatic policy decision-making characterised by: no systematic consultation or research; and stakeholder views and selected research used in an *ad hoc* way to support a particular stance
- policy decisions based on consultation: where systematic consultation is usually limited to invited participants/major stakeholders; submissions usually are oral not formal written submissions; and there is no research or limited *ad hoc* use of research
- policy decisions based on green/white paper processes: incorporating systematic consultations; opportunity for formal public submissions with no restrictions on who can put submissions; close ministerial involvement; ministerial preparation of green paper/discussion paper/consultation paper; opportunity for further public comment on green paper; and subsequent government release of new policy in official white paper. In these circumstances there tends to be a more systematic use of research to support policy approaches, although the use of research tends still to be selective
- policy decisions based on independent public inquiry, where an external and expert committee is formed to undertake the inquiry: where consultations are open and wide; the public is invited to make formal submissions in addition to major stakeholders; there is systematic investigation of the body of relevant research; and

> new research may be commissioned. The independent recommendations are made to the government in the form of a published report; and the government considers, indeed sometimes invites, public reaction to the report before releasing its official policy response. Of course, the recommendations may be ignored, limiting ultimately the influence of research. On the other hand, sometimes the reports and their recommendations are used later or in different contexts

On the basis of this classification, the symposium presenter argued that most key VET policy decisions have occurred through the 'pragmatic negotiated political approach' with some exceptions (for example, the Kangan Report establishing the modern TAFE system (1974); the Kirby Report establishing traineeships (1985); and the Finn Report setting training targets (1991)). Consequently, both full public consultation and systematic use of research have played a relatively small role in VET policy decisions.

The evidence from the Impact Project is not at odds with this view. First, policy-making in VET is mediated through complex Commonwealth, State and Territory government structures and arrangements. The Australian National Training Authority (ANTA) Agreement among Heads of Government is intended to establish a national system of vocational education and training in co-operation with State and Territory governments, the Commonwealth government and industry. The ANTA Board provides advice to the ANTA Ministerial Council (MINCO), comprised of Commonwealth, State and Territory ministers having responsibility for vocational education and training. MINCO is responsible for decisions on strategic policy, national objectives and priorities for the training system. State training agencies are accountable to MINCO on matters of national policy and to State ministers and parliaments for the operational responsibilities of their agencies, including the delivery of training services through TAFE colleges and the oversight of private providers. Despite or perhaps because of these arrangements VET is a contested policy domain: between Commonwealth and State and Territory governments; between public institutions and private providers; and between unions and employers.

The User Choice case study illustrates how the use and influence of research can be mediated through the complex government structures and arrangements: specific aspects of the research had greater influence in some jurisdictions although all the reports were used everywhere. In contrast, the Hawke and McDonald study is a case where all governments identified a common problem, sought to develop an agreed approach, and where the Commonwealth was prepared to provide extra funding: in consequence, implementation of recommendations given in the research report was much simpler.

Secondly, policy-making in VET is further complicated by the speed of the 'rate of change'. The rate of change has been said to be 'unprecedented' for the sector, implying that policy responses often need to be developed in very short time frames: the time frames of research are seen to outlast those of policy making so that research results are often 'too late'. Many decision-makers interviewed as part of the Impact Project identified the complex, changing and time-pressured nature of their operating environments as an important factor in not directly considering research evidence before taking important decisions. Relatedly, there has also been substantial staff turnover in a number of the training authorities. Many decision-makers interviewed were not in a position to judge or comment on activities as recently as five years ago.

Thirdly, VET policy makers' attitudes to research are also important in affecting the extent to which research is incorporated in policy-making processes. At the symposium and in the Impact Project interviews *State level* officials said that research is 'not given a high priority' . . . there is 'no research culture' . . . VET policy makers 'are not very research literate' . . . do not understand the 'research language'. Another described VET as 'self-referential'. There would seem to be contradictory expectations: on the one hand, that research would provide simple answers ('without caveats') about what can be complex social phenomena, and on the other, that some organisations expect decision-makers to take responsibility for their own decisions and that to seek to research an issue could be seen as a form of procrastination. A finding from the quantitative investigations is that there is a growing impression among some senior decision-makers that research 'can't deliver the goods', that it is too slow and often does not produce timely outcomes—an attitude strengthened in some organisations where the culture appears to require decision-makers to use their own judgement rather than rely on externally sourced information.[7]

A further factor that has operated to reduce the (comparatively weak) research culture in VET within State and Territory training authorities is that the spate of public service restructuring (and downsizing) has sometimes led to a reduction in the role of their research branches. This reduction has tended to distance decision-makers further from research and has deprived them of the valuable clearinghouse function that these branches used to perform.

At the *national level* ANTA has nurtured research into VET issues by a range of individuals and organisations. This has resulted in a considerable increase in VET research. Of course, the support for outside research does not necessarily imply that research is widely used in ANTA's internal decision-making processes. Further, ANTA has tended to fund others to undertake research on VET rather than to undertake research itself and it would not be unexpected if the outsourcing of research were to expand (relatively) following the recent substantial cuts to ANTA staffing. Whilst understandable, such a move could create a situation where ANTA's own capacity to undertake and use research in policy development is undermined. The conception of what is important to be done, how best to do it, and how to integrate research outcomes into ongoing policy development, including the continuous process of discussion and negotiation with key stakeholders cannot, in the last resort, be outsourced. It is a core function of the organisation, so long as it seeks more than merely a reactive, administrative role.

Fourth, policy-making is not driven by research alone: indeed if it were it would undermine the principles of policy formulation in a democratic society. Rather, a role for research may be to sensitise policy-makers to the use of systematically derived knowledge in the development of policy. This perspective was emphasised in the information provided by senior VET decision-makers during the Impact Project: two-thirds considered that, in reaching decisions, political and strategic considerations played the greatest role, with research-based information being used (in half the cases described) to support or validate a decision taken on other grounds.

Two final matters

There are two other matters that should not be overlooked in considering the impact of research on VET decision-making. The focus in this section has been on policy and planning in VET without reference to links with other policy domains. In fact, in recent years training has become more closely linked to other areas of public policy. In Australia, as in many other countries, globalisation of industry and the increased pressures of international competition are leading to the closer integration of education and training policies with industry, science and technology, competition, trade and foreign policies to enhance efficiency and innovation. The focus is now on the competitiveness of nations, not simply on the competitiveness of enterprises: the VET system has become an important element of the nation's competitiveness infrastructure. For these reasons many of the main drivers of VET policy originate outside VET.

There are a number of examples. At the symposium, attention was drawn to the move in Australia away from 'social democratic' to more 'rationalist activist' approaches by government based on economic approaches, seen as the outcome of the coupling of a research environment to a government policy environment. The research ideas have moved into the minds of policy-makers and have changed both policy and practice, including downstream in VET. Other examples include:

- national competition policy reforms based on the Hilmer report which already bear on VET in at least some States (for example, through competitive neutrality)
- tariff reform which has increased competitive pressure on Australian industry resulting in greater attention to the quality and costs of inputs including trained people
- the focus of attention on 'contestability' rather than on 'competition' which has implications, for example, for the way VET policy-makers might look at 'their' markets

These developments are grounded in a long history of research activity and knowledge accumulation.

From the perspective of the Impact Project there are two implications here. First, research, which is not specifically directed at VET, can have a significant impact on VET policy and practice. Secondly, there is a need for a research capacity within the VET system, or to which VET has access, to assist in the translation of these ideas into the VET context. Our New Zealand colleague has drawn the research team's attention to the need for a capacity to engage with research in order to absorb new approaches and research and development results from both local and international sources.

The second matter is to emphasise that the research system's major contribution to decision-making may be to the 'big ideas' rather than through the impact of individual research studies. The research enterprise is accumulative: much research does not stand on its own as a piece of work, but adds to that which existed before as well as draws upon it. This accumulating body of knowledge contributes in decision-making to the creation of a climate of opinion and the development of a set of ideas: the ideas in 'good currency' or those, which are no longer. Individual research studies are used and can have influence, but examples may not be typical so that the value of research for decision-making cannot be judged by them alone.

Practice and performance at the provider level

> *What is it that is influencing VET providers at the moment? To speak from the perspective of a TAFE institute director, the fundamental starting point . . . is that we are operating in a competitive market as part of or as an aftermath of the national training reform agenda;[8] and that competition internationally, between States and Territories in Australia, between providers locally and between public and private sector providers, puts everybody in a position of not only wanting to improve their practice and performance, but to be seen to be doing so by government and by our VET clients, because this gives a marketing edge and because it is a means of getting additional resources . . . providers are the object of the reform process and are having to fight for their survival.*

This quote, from a senior TAFE manager, outlines many of the dilemmas facing VET practitioners and the pressures on them. The factors that influence the relationships between research and decision-making at the provider level, that is, *whether research is used and has influence*, are often similar to those described in the previous section: the complexity of the VET sector, the rate of change, and the traditional VET culture:[9]

- VET providers operate in a complex environment, in which they need to balance the influence of government, industry bodies, individual enterprises, and individuals; State and national policy directions, including directions indicated by industry training boards at the State and national levels; and the provision of the best possible educational experience with performance agreements negotiated by directors of TAFE institutes and other providers. In such an environment, the ways in which research is used will be weighed up with other strategic and pragmatic factors.

- Providers are also required to cope with a substantial 'rate of change' in the structure and operations of the VET system which has challenged many of the underlying assumptions about their role in it.[10] Many are still seeking to come to grips with these changes that are a continuing feature of VET. Boud et al. (1997) suggest that for many in these circumstances research is not a priority; indeed, research can appear a remote activity having little bearing on their day-to-day concerns.[11]

- There is not a strong research-based culture at the practitioner level in VET: although a number of practitioners would have had some exposure to the interpretation of research in university-based teacher training, this would not necessarily have equipped them to make effective use of research in their decision-making.[12] Faced with a need to decide between different alternatives, practitioners are likely to make decisions according to past practice, their perceptions of industry needs, and local constraints rather than based on research (Boud et al. 1997). However, the case studies provided by Creek, and Sefton and Waterhouse show that in at least some provider organisations high value is placed on the contribution of research skills and attitudes to their competitive advantage.

The quantitative studies indicated that the disappearance of research branches and research units (such as the Assessment Research and Development Unit in TAFE NSW) which served entire TAFE systems also has made research results less accessible to practitioners.[13]

When research is used, it can be used pro-actively but the Impact Project has found that it is often used to defend resources or to legitimise a decision already made. Also, VET providers may use other information sources that could be regarded as being in 'competition' with research, as a result of externally imposed requirements. These other sources of information include audit-style evaluations (with a focus on discernible outcomes); VET statistics and indicators; performance indicators; target benchmarks; and the results of benchmarking studies. There could be an implication that these inputs can take the place of more formal research but this is not the case.

> *The research mandate must be to think the unthinkable, to reassemble accepted truths into new patterns of meaning, and to identify the sources of problems newly emerging and patterns of action and organisation which hardly at present exist.* (OECD 1995)

Where practitioners are actively engaged in research many instances have been identified where the use and influence of research has been high. There is a strong commitment among practitioners to their clients and an interest in learning new ways to improve their practice. However, there are also a number of factors that inhibit an effective contribution of research: a lack of access, for example to on-line databases and to libraries which tend to focus their collections on student support material; tight financial constraints so that practitioners do not have access to time or funds to undertake or even participate in research activities (the few sources of external funding available are not well-known and their requirements often intimidate practitioners); and practitioners are often concerned with issues for which quantitative research methods are not appropriate, but report an unwillingness on the part of central agencies or senior management to support research which does not result in quantifiable outcomes.

At the level of individual practitioners, there would also seem to be obstacles to individual trainers strengthening their connection with research and being influenced by it. Such obstacles can include the notion of teaching and learning as an 'art', the absence of a personal obligation to systematically assess the outcomes of the teaching and learning process; and lack of competence in research methods (OECD 1995).

Market research

At the symposium a provider commented on a growing body of research being undertaken by VET providers; that is, research which is 'commercial-in-confidence'. The growth in market research is in response to a number of factors: increased competition among VET providers for students; shifts in market demand; and the need to tailor VET offerings to the specific needs of a number of client groups. Of its nature the extent of such research is difficult to establish, but the research team's impression is that the volume of such research is increasing and that providers are assigning to it greater importance.[14]

The case studies

A number of the case studies undertaken for the Impact Project throw light on the research activities of some VET providers, and how these activities relate to the context in which they operate and the specific decisions they face.

There are four such case studies. They have some common features:

- Two are concerned with strategy and management issues; two also address training delivery issues.
- All reveal the importance of a decision-making environment which is predisposed to give audience to research findings.
- The conduct and use of the research reviewed in two case studies reflect a favourable institutional environment; that is, there was a supporting culture for research; in the other two, the conduct and use of the research was a reflection of the research 'skills and attitudes' of key individuals.
- Perceptions of the usefulness of the research reinforced the commitment to using research approaches in related activities: the commitment to using research in decision-making was cumulative.
- The ways in which research was used reflected the particular context and other factors which were operating: 'it was part of a general atmosphere conducive to change in this area and in this direction'.
- The difficulties of precisely defining research and relating research to decision-making were brought into prominence (to employ a wider definition implies a much greater impact of research on decision-making).

Individual case-studies highlight particular features of the relationship between research and decision-making:

- The Sefton and Waterhouse case study draws attention to the value of research in fields other than education for improved workplace learning: political economy, work organisation, HR management and industrial relations: 'It is not merely educational research which has an impact on educational practices'.

- The importance of 'champions' to support the research and its use and to develop and maintain linkages both within and outside the organisation is stressed by Creek. Jones and Trembath also draw attention to the role of champions.
- The Sefton and Waterhouse case study demonstrates that providers with a culture of research can act as mediators and advocates between the workplace practices and the world of academia, empirical research and critical inquiry.

Community relations

Community relations are concerned with the interactions between VET and wider economic, political and societal systems. These interactions are multi-faceted and they can occur at all levels: national, State and Territory, regional, local and between individuals; they can be conducted through formally constituted channels or informally; and they can be structured or *ad hoc*.

'Community' in this context includes a wide range of actors: the business community; the union movement; adult and community education groups; and local government. Some of these communities are significant stakeholders in VET in that they have a particular interest in the outcomes of VET decision-making ('we have a major stake in VET'). Often they have the ability to influence those decisions directly. For example, peak employer bodies and individual business people are formally represented on the ANTA Board, on State training authorities, on industry training advisory boards (ITABs) and on the councils of individual provider organisations. The trade union movement is similarly represented.

In these formal roles the 'community' groups are users of research for decision-making and they may also influence the research agenda. Each of the individual stakeholder organisations uses research to advance their own interests in a range of fora: they deploy a wide range of information, including research-based information, as part of their engagement with the ongoing debates about current political and policy imperatives. Another use of research for them relates to their communications with constituents. The constituents generally are not interested in research and related questions unless there is some direct benefit for them. Rather they rely on the organisation, and key staff within it, to keep up-to-date with relevant developments, safeguard their interests and advise them of significant aspects. The type of research they use would seem to be that which is short-term and instrumental.

More generally, many of the questions these groups address do have their ideas sourced in research, but the groups, and even more so their individual constituents, often do not know where the ideas originated (nor is it necessary that they do). However, this lack of awareness of the source of ideas among influential stakeholders can bear on their willingness to support research; it is important particularly where they are in a position to influence the level of funding for research and its overall directions (as where they are members of formal policy and funding bodies).

'Community' organisations do undertake research on VET questions, although the amount would seem to be comparatively small. As an employer organisation stated, 'we do not initiate much research ourselves'. Nevertheless they can be actively involved in the research enterprise: 'we are finding ourselves inundated by (VET) consultants who want employers' views quickly'. The union movement also undertakes research including on VET questions. Some of it is directed specifically at their own needs: industrial, for salary and conditions issues such as for court cases or to assist in negotiations, and research to support pedagogy. They also undertake research of a broader ideological, political and social nature, which assists them to campaign in the wider community. It was noted at the symposium that the latter type of research can play an important role for a union in an industry which is largely dependent on government funds (as in VET): this type of research is agenda setting and its links to decisions tend to be cumulative and indirect, yet at the same time they can be influential, especially in the intermediate term.

The adult and community education (ACE) sector is another VET community and one that can have close links with VET. The ACE sector is very varied: between and within any one State and Territory, in terms of size and resources, scope of provision, facilities, and their regional focus, and therefore the level of outcomes they can hope to achieve. In one large ACE organisation which was discussed at the symposium, there has been a concerted effort to encourage the development of a research culture: an in-house research fund was established; a research officer was appointed to encourage research projects to be undertaken by staff; a research plan was developed; personal research was encouraged; as were staff applications for external research grants. But overall it would seem that action in the ACE sector is based largely on praxis; they are unlikely to undertake research.[15]

At the symposium it was put that some 'community' activity might be referred to as 'partisan research . . . research done by organisations outside universities by those who have a particular interest and partisan view'. Partisan research can be located in 'quasi-research institutes' where their activities are close to advocacy: research is one of the weapons in their armoury. Partisan research can also be conducted or supported by research foundations which are politically oriented, in terms of the 'right' or 'left'. It was argued that the importance of partisan research is increasing and that this reflects (in the US) the movement of the political system more towards interest group politics. Partisan research acts to, indeed is often intended to form public opinion, to influence which ideas are in good currency and what ideas are in or out of public favour.

It is often the community's call for change, rather than direct research evidence, that produces change in both policy and practice. This call, which may be referred to as 'clamour', can both serve to initiate research and be driven by it. Research can have an impact on decision-making but the impact is mediated through community activity and the political process rather than directly (Postlethwaite 1984).

The case studies

There are three case studies concerned with community relations aspects of VET: in each case it is indicated that the research was used; in two cases it also had influence. Hawke and McIntyre argue that the *ACE works* report was used and had influence because the research was commissioned by the Board of Adult and Community Education with the intention of use; but Foyster argues that the ACER literacy and numeracy studies, although commissioned by a parliamentary committee and technically sound, had no influence. The case study by Dwyer has found that the research had influence in unexpected ways: through students' changed perceptions and decisions after participating in the research study. The Hawke and McIntyre, and the Foyster case studies are concerned with 'top-down' decision-making (the former where research was used and had influence; the latter where impact was minimal). The Dwyer case study is an example of 'bottom-up' decision-making: the research had influence on participants' attitudes, provider actions and community perceptions.

The Dwyer case study has challenged the linear pathways model of the transition from school to further study or work. This conclusion raised difficult conceptual and practical issues for decision-makers both at State and federal levels; the case study illustrates that research implications for decision-making based on an investigation of a real world situation in its full complexity can be difficult for policy-makers to handle.

Each of the three case studies illustrates in their different ways the difficulty of establishing the impact of research on community relations aspects.

4.3 Research

A researcher who has studied the relationships between research and decision-making in Australian education stated at the symposium that 'research in education, and by implication in VET, is so diverse and includes so many approaches that we are not communicating well if we just talk about "research" with a capital "R" '.

A common starting point is to define research (R&D) by reference to the Organisation for Economic Co-operation and Development (OECD) Frascati definition also employed by the Australian Bureau of Statistics (ABS). R&D comprises 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this knowledge to devise new applications'. The ABS notes that R&D is 'characterised by originality. It has investigation as a primary objective . . . R&D ends when work is no longer primarily investigative' (ABS 1993).

The Frascati definition focusses attention on research studies, but in the research team's view 'research' has a number of outputs. Not only does it provide new knowledge and applies existing knowledge in new ways, including for new audiences and in new settings; another output of research relates to what might broadly be defined as research skills and attitudes. Here the contribution of research is not so much a particular set of findings but an approach, a way of doing things or of assessing alternative sources of information. At the symposium it was argued that R&D creates human capital as well as knowledge: the act of conducting research creates skills and competencies of value independently of the knowledge created. The outcome of research is co-produced goods: systematically created knowledge and the creation of human capital.[16] A third output of research is appropriately educated people. Educated people are critical to research's contribution to improved decision-making in the wider community. Most 'impact' studies concentrate on the knowledge creation aspects of research, however.

The motivations for undertaking research studies can vary. The different motivations are captured in the OECD/ABS classification of research by type of activity: basic research; strategic research; applied research; and experimental development (ABS 1993). To classify research in this way focusses attention on the possibility of different *levels* of impact for the different types of research, at least in the short term; different *patterns* of impact in different areas of decision-making at different stages in the policy cycle; and variations in *perceptions* of the extent of impact among the types of research, because the impact of some types of research is more readily visible than others.

Education research (including research on VET) is a subset of social science research; it employs a wide range of methodologies and different questions benefit from different techniques and approaches. Much research is conducted from the standpoint of a particular academic discipline and many disciplinary perspectives are employed (sociology, psychology, economics, politics, etc.) To the extent that researchers adopt an approach based on a particular discipline, it can influence the problems identified as important, the key questions posed, the techniques adopted to investigate them, the way in which results are reported and the audiences to whom they are communicated.

The research is carried out in a number of locations: universities; other not-for-profit, specialist research organisations; within government departments and agencies (and sometimes within dedicated research units); in the VET system by VET providers; and increasingly, in private consultancy firms. It was argued at the symposium that anyone with relevant skills can carry out research and can do it anywhere (and the case studies confirm this view). However, there are significant advantages in carrying out particular types of research in the different locations. These different locations have their own history and culture and their own incentives and reward structures; each tends to specialise in undertaking different types of research and each produces different combinations of research outputs.[17]

Thus, the higher education system, a 'designed environment' for research, has a questioning culture, and a tendency to elevate basic and strategic research over 'development' activities. Much research carried out in universities is less technical problem solving than a process of argument among peers; that is, 'research is [seen as] a process of debate' (Klein 1990). Research in these settings tends to be strongly oriented to academic disciplines and to undervalue multi-disciplinary work.

Consequently, it may be that practitioners feel that researchers are not asking the relevant questions. Universities also have responsibility for tertiary teaching and the training of researchers.

The balance of incentives and rewards can be very different in other research settings,[18] such as consultancy firms or in government agencies. There has been a significant expansion in research work undertaken by the 'Big 6' consultancy firms including for VET. A consultant commented that the work of the 'Big 6' tends to be at the 'D' not the 'R' end of the R&D continuum, that their work often synthesises existing research and tends to be less confined to a particular discipline than the work of university researchers.

There is a balance to be struck from the overall societal viewpoint among the different types of research and by implication among the different locations. At the symposium it was noted that trace-back studies, which take 'an idea in good currency' and ask where it has come from and whether its sources were in research activities or in other sources, have tended to find a greater impact from research than the forward looking studies, and to bring the value of basic research into greater prominence. Another presenter argued that basic research could be justified by its contribution to human capital creation and skills development. Over recent years, governments have sought to change the balance and to increase the linkages between researchers and users, better to capture a greater level of economic and social benefits from the public resources invested in research. Funding is the major mechanism to direct the national research effort towards areas that are assigned a higher priority. Researchers are responding to these incentives. A question is whether the particular patterns of incentives currently incorporated in funding and contract arrangements act to undermine the 'research base'. This question is important to, but not confined to, VET.

Different research settings also tend to attract *researchers* with different approaches, values and interests, which can effect the research they do and where they have audience. It has been remarked in the literature that researchers, especially those in higher education, tend to be unfamiliar with the complexities of the policy process, which can limit the use of their research by decision-makers (for example, because of choice of research projects, timeliness, format of reports and recommendations for use). Conversely, at the symposium it was said that researchers in consulting firms have particular skills in 'helping policy happen' and in 'linking various resources together quickly', better to meet the often fast changing needs of decision-makers. Relatedly, it has been claimed that some research is judged according to *who* did it rather than what was done.

Evidence from the quantitative studies

The quantitative studies (reported in chapters 4 and 5) provide empirical evidence of the pattern of VET research undertaken in Australia between 1988 and 1996. One thousand and sixty-eight different 'significant research activities' were identified as having commenced. Eight hundred and sixty-three were described as 'research and development' (R&D), 205 as 'local research studies'.[19]

Research and development: When categorised by content area[20] it is found that a substantial proportion of the 863 studies are in the area of 'curriculum development and/or delivery' and 'assessment' (71.5% of the studies: see table 2, chapter 4). Many of these studies were localised in their focus or content. These two areas have received a particular boost through the work associated with the development of competency standards since 1991. There is some evidence of repetition of similar work in the 'curriculum' area during the period. The other main content areas are student/trainees (18.3%), organisation and/or provision of VET (11.2%), support facilities (10.9%), and teachers/trainees (9.7%).

There has been less research focussing on 'policy and economics' and 'industry issues': 8.3 per cent and 5.4 per cent respectively over the whole period. However, interest was much higher in the latter half of the period (1992-1996) when these two areas accounted in total for almost a quarter of all studies. Much of the policy work has been carried out within State training authorities; in turn, 'policy and economics' accounted for about 60 per cent of all research projects undertaken by them. By contrast, research activity decreased in relative importance for curriculum development and/or delivery (see table 3, chapter 4).

Of the 432 studies where the primary source of funding could be identified virtually all were publicly funded. In fact, 43.3 per cent were found to be 'public-commissioned' and 38.7 per cent were 'public-internal activity'. Only 15.7 per cent of the studies were 'public-competitive' funded (see table 4, chapter 4). However, a substantial shift in the balance between the different sources of funding between 1988-91 and 1992-96 was identified, with both 'public-competitive' and 'public-commissioned' increasing and research activity within public sector agencies declining (table 5, chapter 5).

There have been substantial changes in the kinds of organisations involved in the conduct of the R&D activities identified. Training authorities conducted less research in 1992-96 than in the period 1988-91 (42.6% as compared with 26.4%). The proportion conducted by professional/industry bodies including ITABs rose, from 12.4 per cent to 23.1 per cent. There has also been an increase in the proportion of research studies conducted in universities (from 9.9% to 15.8%) and in consulting organisations, from 4.8 per cent to 10.3 per cent. Not surprisingly, universities and consulting organisations undertook most (65.2%) of the commissioned research studies (tables 6 and 7).

There has been a marked shift in the sites of research, to workplaces. The proportion of research studies involving one or more workplaces increased to 12 per cent of the total studies (where this information was made available by the respondents) in the latter half of the period. On the other hand, the proportion of research studies located in TAFE college settings declined sharply from 43 per cent to 25 per cent of all such studies. It was commented that this result could be affected by ANTARAC giving emphasis to workplace learning as opposed to learning occurring in classroom settings.

Almost two-thirds of the studies located are described as applied research, and almost a quarter as strategic research. There was very little basic research carried out and, not unexpectedly, virtually all of it was conducted within universities. Within the domain of applied R&D, there was still significant variation among studies in their primary purpose and nature. A substantial proportion of studies were evaluations of programs or practices (37%)—often these were carried out as part of the implementation of various commonwealth-funded VET initiatives, though similar situations also occurred with some State-funded programs. The other significant category (28%) involved research activities which were those intended to inform the policy-development process. Such studies now represent the greater proportion of all research activities conducted within State training authorities, around 60 per cent of those conducted in 1992-96 (see table 10).

Local research studies: Some 205 examples of local research projects were identified: their collection was almost completely restricted to NSW and Victoria. The great majority of the studies located were the actions of individuals seeking to improve the operation of a teaching or other program with which they were involved. In a number of cases, the work was completed in partial fulfilment of an initial teaching qualification; in others it was part of an assigned job role. Most of these studies appear to have been relatively brief in duration and to have produced either no published report or one that had only extremely limited circulation.

Research programs: Eight programs of research are identified where there were systematic attempts to build knowledge in a particular area of VET policy and practice. During the review period these programs generally were pursuing research around a common theme which has represented a government priority. These programs were:

- facilities planning investigations—TAFE NSW
- competency standards for the professions—University of Technology (UTS)
- cognitive psychology investigations of work-based learning—Griffith University
- economics of education and training—Monash University
- vocational role of ACE—UTS
- quality improvement (the BEEP projects)—Office of Technical and Further Education (OTFE), Victoria
- linkages between VET and higher education—Department of Employment, Education, Training and Youth Affairs (DEETYA) with various universities
- competency-based learning and assessment—NCVER

> *Meta-evidence emanating from many studies and research repeated over time, under different conditions and employing different designs and methods, is required in establishing propositions and principles for policy and practice.* (OECD 1995)

The data on which these findings have been based has been difficult to obtain. A substantial amount of research into VET in Australia is inaccessible: much of it is not captured on the relevant databases, and is sometimes not readily available from the organisation in which it was conducted or by which it is funded: sometimes they do not even know of its existence. Of course, some research will always be unavailable: some is confidential; some is locally generated and locally specific research; some have 'commercial in confidence' status; and some is action research, which may have little applicability elsewhere. However, it is likely that these reasons do not apply to the majority of research studies carried out in VET. The inability of researchers and probably users in other areas of the VET system to access the research studies represents a major shortcoming. This situation is not confined only to VET research.

Two other research matters

There were two other matters related to research which were brought to our attention at various stages of the Impact Project and were confirmed as important by a number of audiences.

The first matter relates to the perceived quality of VET research. VET is an area of study to which many academic disciplines can contribute and in which many techniques are employed. Each brings their own standard of acceptable performance. However, some research on VET issues is not explicitly based in any single discipline: a not insignificant amount of research on VET, particularly, but not only at the provider level, may be described as professional social enquiry.[21]

The case studies indicate that these approaches can make a positive contribution to the culture and operations of VET institutions. However, there can be a downside if customary standards of evidence and performance are not applied. Both at the case studies workshop discussion and in the responses from correspondents, the question was raised whether VET research has little influence because much of it is 'poor quality' and/or 'poorly communicated'. Indeed, one correspondent stated that 'although there have been significant improvements (many of them stimulated by ANTARAC) much more needs to be done to lift the quality and sharpen the relevance of VET research'.

These judgements about the quality of research have been made without any implication that research should be viewed solely as a source of information in support of decision-making, especially if the relationship is conceived as narrowly instrumental and short-term; which leads to the second matter, and that is that research has other important societal purposes. The West Report (1997) argues that education [including research and research training] has special social and cultural dimensions that contribute to the transmission of knowledge, an informed citizenry and the quality of life (p.1). Research is not just the servant of decision-making.

4.4 Web of linkages

A senior VET policy-maker has argued that the linkages between research and decision-making systems in VET are 'weak'; are a 'rickety bridge . . . that isn't anywhere near as strong as it should be'.

The tendency in Australia has been for VET research funders to focus on 'dissemination'—'a remote audience for research with whom communication must be established' (McGaw 1996)—rather than on linkages. The information obtained in the course of the Impact Project would suggest that this emphasis is misplaced, and is possibly based on the 'linear' model described earlier in this paper, in which dissemination is one of the steps that connects research with policy and practice. Dissemination is one form of linkage, albeit one which is given particular emphasis in the VET area.

This emphasis on dissemination rather than on a web of linkages may reflect a lack of understanding among some of the importance of linkages; or the absence of an otherwise strong web of linkages; or the view of dissemination as the final phase in the conduct of a research project (or all three). Dissemination activities are more easily identifiable, for example when considered in relation to particular research projects; but their effectiveness is enhanced when they operate in the context of a strong network of linkages. The wide range of dissemination approaches outlined in *The national research and evaluation strategy for vocational education and training in Australia 1997-2000* prepared by NCVER for NREC (NCVER 1997) will contribute to the strengthening of linkages among the various VET stakeholders. The strategy recognises that narrowly defined dissemination is not, by itself, enough to meet their various needs.

Of course, to focus on dissemination rather than the broader concept of linkages has its political aspects. Viewed as the final stage of a project, dissemination can be thought to be the responsibility of the researchers.

To stress the concept of linkages is to be concerned with facilitating the establishment of multiple areas of collaboration between the researchers and users (and other groups), given the multiple pathways through which research can influence policy and practice. The web of linkages includes both formal and informal arrangements. Appropriately structured arrangements, for example research advisory committees, can provide a means of monitoring policy developments and concerns and of relating research to them. Huberman has identified formal linkages ('sustained interactivity') as being an important means of achieving instrumental change. However, the importance of informal arrangements was also stressed. These include the transfer of people between research and decision-making domains: people as linkages not only facilitate the flow of ideas; the movement of policy-makers into research settings also provides the opportunity to capture that other benefit of research: trained personnel.

Participants at the symposium also emphasised the possibilities for particular research processes to act as a linkage with policy-makers, practitioners and users. This possibility was seen as important in a number of the case studies and had occurred at various levels in the VET system and in relation to links with the wider community. The conduct of research projects can also act as a linkage among researchers.

Three particular matters were raised by symposium participants and our correspondents. One matter concerned the possible use of research 'brokers'. It was argued there would always be significant differences in attitudes, cultures and incentives between the research and decision-making communities, so that there was a role for brokers to facilitate the exchange of research information between the producers of research and potential users. Of course, where research occurs in decision-making settings (e.g. research in government agencies or at the practitioner level) the linkages between research and decision-making are closer. There is a greater likelihood of external research also being taken into account for decision-making.

A second matter relates to the role that can be played by units within government agencies, which act *inter alia* to link research findings to decision-making processes. It was argued that the increasing tendency to outsource VET research does not remove the need to retain an integrative, translating and co-ordinating function within agencies. Training authorities can only integrate new information from research effectively if they have the skilled personnel and the capacity in-house to ask the appropriate questions, assess the evidence, and know how and when to employ it.

Finally, correspondents drew attention to the international dimension of the relationships between research and policy and practice. The Australian VET sector is operating increasingly in a global environment and subject to international influences. Researchers, as well as policy-makers and practitioners interact with their overseas colleagues as well as with those in Australia so that the potential web of linkages is expanded substantially within and across the groups. Indeed, some Australian researchers, by influencing international agencies such as the OECD or individual overseas researchers may eventually influence domestic policy and practice, perhaps in ways the original researchers may not recognise.

5 Our answer to the research question

The research team was asked 'to review the evidence for and where possible evaluate the extent of influence of research in VET'.

The *evidence* is that research has impact—use and influence—on VET decision-making, but not in the way many people think.

- The research enterprise is accumulative. Much research does not stand on its own as a piece of work but adds to that which existed before. This accumulating body of knowledge contributes in decision-making to the creation of a climate of opinion and the development of a set of ideas, so that at any given time certain ideas, approaches or ways of thinking are in 'good currency', whilst others are not or are no longer. Over time, research's main contribution may be to the 'big ideas'. A number of the 'big ideas' preoccupying senior VET decision-makers in recent years are grounded in research.
- The outputs of the research system also include research skills and attitudes and trained personnel (human capital). They contribute to the maintenance and development of the research system and can contribute to varying degrees to decision-making. These outputs are often overlooked: they were largely ignored by

'users' at the symposium. However, the contribution of human capital to improved decision-making was demonstrated in a number of the case studies. The absence of these research outputs substantially weakens VET decision-making.

- The Impact Project provides evidence that individual research studies are used and have influence on VET decision-making in policy and planning, practice and performance within provider organisations, and community relations; but examples of individual studies may not be typical so that the value of research cannot be judged by them alone.

It is not possible to evaluate (quantitatively) the *extent* of the influence of research on VET decision-making: the extent of its influence is positive but less than unity.

- There are many different types (broadly defined) of research and these can be used in a wide range of decision-making contexts. These different types of research have varying levels of visibility to the separate groups of users and other stakeholders and affect these groups' knowledge of the extent of the influence of research. Thus, *a priori*, one cannot conclude which types of research are used and have influence more than others: it depends.
- The extent of the use or influence of research cannot be determined by considering the research system alone. Its use and influence depends critically on the circumstances of decision-making in a particular context and the linkages between research and decision-making in that context. The Impact Project demonstrates there are many contexts.
- There are many (potential) uses of research in VET decision-making. The extent of research's use and influence can depend upon the decision-making setting. Uses include: to resolve a particular problem; as a weapon in explicit political or bureaucratic conflict; to justify a decision already made etc.; as well as the more generally recognised use in problem solving or to assist users to increase their conceptual understanding of an issue. VET research has been used in these various ways at different times, although it is not always made explicit.

The extent to which research can be used and have influence in VET decision-making can be *enhanced* by the actions of the stakeholders.

- The researchers have an obligation to be committed to the research enterprise, to keep up-to-date in their field, to maintain the quality of their work and to be willing to engage with their broader communities. The research system needs to have in place an appropriate incentive structure to encourage such behaviour by researchers.
- The decision-makers have an obligation to be engaged with the world of ideas and to think, read and participate in intellectual debate. They cannot expect to make good decisions without thought: they have the responsibility as professionals to develop their own human capital. They are unlikely to act in this way unless the incentive structures in their work settings encourage such actions.

- To the extent that a significant amount of research is now commissioned by training authorities and other users, these groups' actions will also influence the quality of research. A strong preference for research that is short-term and instrumental can in the longer term weaken the research base.
- A weak network of effective linkages undermines the potential for research to be used in VET decision-making and to have influence. It limits the potential of the two-way flow of information and people and for feedback. The emphasis on linkages rather than dissemination (narrowly defined) increases the mutual responsibilities of the parties.

Enduring linkages are based on the sustained mutual esteem and understanding of the potential contribution of each party, and where those linkages emphasise collaboration for the good of the VET system as a whole.

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Comment from Olivier Bertrand

My only comments refer to the French situation, which raises the issue of the possible incidence of different contexts, especially from the point of view of a centralised versus decentralised system and of a school-based versus an enterprise-based VET system.

But first of all, I would raise the issue of the borderline between information, what we would call here studies, which are essentially field investigations or comments on basic data; official reports to evaluate existing arrangements or specifically intended to prepare policy decisions; and a research paper which, for us, has a more theoretical approach and is usually not related to policies. Where would one put the large amount of publications which comment, regular surveys on the transition from school to work, or specific investigations on the development and success of a new diploma or a specific training course: is this research?

An additional question might concern studies undertaken at the international level, especially by OECD, but also international meetings and exchanges of views between representatives from different countries. Is this research? I do not know, but I believe that many countries are influenced by the prevailing trends at the international level, albeit in a very indirect and unclear way.

The next question could be: who are the decision-makers? In the traditional French context, where vocational education was essentially school-based and was leading to State diplomas, the main decisions concerned the contents of the courses leading to the diplomas and the intake of students in public vocational schools. Those decision were taken essentially by the Ministry of Education and I do not think that they were based on a lot of research.

During the last decades, the context has changed considerably: a consultative body where employers play an important role was established, followed by the creation of CEREQ, a public agency specifically in charge of studies on the relationship between employment, qualifications and training. Then in the early eighties, a decentralisation process took place whereby the responsibility for investment (and therefore for the location of new institutions and of new departments) was left to the regional authorities. At the same time, government policies were oriented towards the revival of apprenticeship and the development of other forms of 'alternance' between school training and enterprise training. There is also a trend towards more autonomy for the school principals (as in most other countries).

Under these circumstances, there are many more stakeholders, including regional authorities, employers and to some extent school principals and teachers. The notions of decision-making and of decision-makers are becoming considerably more complex. A distinction should now be introduced between:

- decisions concerning the overall strategy and the training contents, which are related to the definition of vocational diplomas; they are still taken by the Ministry of Education, but taking into account the views of employers' and unions' representatives
- decisions concerning investments in vocational education, which are made essentially by regional authorities
- decisions concerning the intake of students, for which the responsibility is not clearly defined, regional authorities and individual schools are involved, but the main factor is the supply
- finally, individual employers are quite free in their decisions to recruit apprentices, and the private schools should not be forgotten

The question of course arises as to whether there was more impact of research when there was a smaller number of decision-makers, who could be easily informed of the research findings. It is tempting to give an affirmative answer, but I doubt very much whether this was the case. Nobody can really say with any degree of certitude how the major decisions have been made in the past, but one can suspect that they were greatly influenced by political considerations—sometimes a little bit naive—while research had little impact. From my own experience, officials in the Ministry of Education are better informed today and have more access to a large amount of information and of studies, which are more accessible. But I doubt very much whether employers are really interested in and aware of research findings.

Looking more directly at my experience with CEREQ, I would underline that 25 years ago its research findings were published in a rather academic form, with a restricted distribution, so that decision-makers would not even read the publications. Then, progressively, a policy was adopted of producing a variety of documents, journals and newsletters, the latter being easily readable and widely distributed to the larger number of people involved in policy decisions at various levels. The process of co-operation with the ministries to help in the preparation of policy decisions was not easily accepted at the beginning by CEREQ's staff, partly for ideological reasons and partly because some of them believed that doing research of an academic type was more prestigious than studies to advise decision-makers.

The new policy aiming at a wider distribution of more readable materials may have contributed to the fact that people are generally better informed today. Some of the reports are more specifically intended for the consultative commission and for the authorities concerned with the creation and revision of vocational diplomas in the Ministry of Education. The department concerned in the ministry has its own staff of people to follow the consultations and to commission additional studies outside CEREQ, but often within its network of associated centres, which are usually attached to universities.

Comment from Russell Rumberger

You primarily asked me to comment on differences between your conclusions for Australia and what I know of the situation in the US. Let me offer a few remarks about this.

First, the situation concerning the impact of VET research on policy and practice is generally similar in the US. There is a fairly large body of research on the relationship between research, policy, and practice in the US, some of which you cite, but little of it specifically has focussed on VET research. There is little reason to expect the situation for VET research to be any different than research in other areas of education. But I would say that some US research on training issues, mostly carried out by economists in academic and private research firms, is probably more sophisticated and respected and therefore more used than much of the research in vocational education carried out within the education sector. I can think of a couple of major studies of federal training programs, for example, that probably had some direct impact on federal decision-making in this area.

Second, there is an increasing amount of research being done in the US by both traditional academics and others in professional associations and other organisations. This has been prompted, in part, by the increasing number of availability of federally funded data in many areas of education and training. One of the legacies of recent conservative governments in the US has been to decrease basic or even applied research in education, while at the same time increasing the amount of data collection and statistical information. Federal data and statistical information is now readily available in many forms, including the Internet, making it easy for a variety of individuals and groups to gain access to these data. The increase in research output can also be attributed to increased availability of low-cost computers and sophisticated software.

Third, there has been a growing awareness of the importance of research making an impact on educational policy and practice within the federal government. As a result, federally funded research and evaluation centres are now required to develop dissemination plans as part of their research proposals. There is also a growing interest in developing 'broker' activities to translate research findings into forms that can be understood and used by policy-makers and practitioners. The University of California, for example, funds the California Policy Seminar to make grants and disseminate research findings on issues of interest to state policy-makers in California.

In evaluating the impact of research on policy and practice, to me it would be useful to distinguish between several different kinds of research:

- descriptive research, such as statistical reports produced by the federal government
- evaluation research, which covers evaluations of national, State, or local programs
- analytic research, which addresses more fundamental research questions

I would say the actual and potential impact of research varies widely among these three types.

As mentioned before, there has been a growing amount of and use of descriptive research, primarily from federal agencies, including the US Department of Education. Many State governments, such as California, have also become more sophisticated in the collection and dissemination of descriptive research. In California, for example, the State Department of Education has just established a web site where one can get a detailed statistical profile of all 7,000+ public schools in the State.

Evaluation research is also increasingly important in formulating policy and practice decisions. But unfortunately, good program evaluations are still relatively rare. Recent reviews of educational programs in a number of areas reveal few studies that are carried out with a rigorous scientific design that can yield strong conclusions about program effectiveness. One reason that evaluation research has not increased much is that it is time consuming, costly, and requires some fairly sophisticated research training to carry out.

Analytic research is the type mostly carried out by university researchers. Often this type of research is not designed to address specific issues or problems of policy or practice. Rather it is designed to address more fundamental issues, such as theories of human behaviour. As such, there is less potential for this research to impact on policy and practice, at least directly. But this research can be very useful when it is subjected to a large-scale, careful review where the results of a body of research in an area are reviewed and the findings synthesised. Such an activity is carried out in the US by the National Research Council, an independent, federally funded organisation that constitutes panels of knowledgeable scholars to review the research knowledge base on issues of importance to the federal government. Past panels, for example, have examined the education and training requirements for non-college bound youth in the US and the education of at-risk youth.

I agree with your statement that there are fundamental features in the structure and cultures of policy-making and educational organisations that prevent the wide scale use of research. I don't see these changing to any great extent in the near future. Therefore, I believe there is an important role for 'knowledge brokers' to play in reviewing, translating, and disseminating research findings into forms that can be used by policy-makers and practitioners. I also believe that universities and other research organisations can make some changes in how they operate and in their incentive structures to encourage and reward researchers to carry out more policy and practice-oriented research.

Footnotes

[1] A research consultancy awarded to the Monash University-ACER Centre for the Economics of Education and Training (CEET), in association with the Research Centre for Vocational Education and Training (RCVET) at the University of Technology, Sydney. The authors are Chris Selby Smith (CEET), Geof Hawke and Rod McDonald (RCVET) and Joy Selby Smith (a private consultant).

[2] The more extended comments received from Dr Olivier Bertrand and Professor Russell Rumberger are included at the end of this paper.

[3] see discussion in chapter 2.

[4] It is of interest that while a number of Australian studies make assertions about the impact research does (or does not) have on decision-making in VET, few prior to this study have established the connections, either generally or in relation to particular instances.

[5] At the symposium five possible meanings for 'use' were identified: when new knowledge is used for problem solving in an agency, and the need for knowledge has originated in that agency (instrumental use); when new knowledge leads to users' increased conceptual understanding and long-term changes in thought patterns (conceptual use); when new knowledge is used as a weapon in an explicit political conflict (political use); when new knowledge is used with other elements to construct a knowledge background for a key decision (interactive use); and when new knowledge is used to back up or justify a decision already made by an agency (legitimative use).

[6] A researcher's comment at the Melbourne case study workshop.

[7] The quantitative study indicates that while initial reactions from policy-makers suggested that research in VET areas had not served their needs well, the nature of activity within VET research is highly influenced by prevailing policy issues. Over the period of study, significant shifts in the balance of both the kind and focus of research and development activity have occurred which appears to closely parallel changes in the interests and priorities of funding bodies.

[8] The national training reform agenda is the collective term to describe a series of training reforms set in place in the late 1980s and early 1990s of which the development of a 'more open and competitive' training market has been one of the central features.

[9] The Impact Project considers the research question on a national basis, but there are important differences between the States and Territories. Historically, the prime responsibility for the provision of vocational education and training has rested with the States and Territories and despite the increase in Commonwealth involvement there remain significant differences in culture, history, structural arrangements and priorities among the State and Territory systems. Even where the agreed direction of change is similar, processes can differ markedly. Some States have devolved authority and responsibility to the individual institutes; others are more hierarchical and centrally administered. These differences affect the nature of decision-making in individual institutions among the jurisdictions.

[10] The majority of those working in provider organisations would have started their careers prior to the late 1980s: when 'VET' equalled 'TAFE', when each State had a TAFE system in the same way that each State still has a school system; when there was little devolution of authority and responsibility to individual colleges; when curricula were set centrally; when the only VET qualifications were TAFE qualifications; when courses were defined in terms of hours and years; and when the seniority system was still in (unofficial) operation in many colleges. All of the above, and many more aspects of VET, have now changed significantly.

[11] McDonald and Hawke were two of the authors of this research. Their findings were presented at the February symposium.

[12] In fact, there is a lessening of the use by TAFE colleges of university-based qualifications (the courses in which new and experienced TAFE teachers used to gain a basic understanding of research) as a basic qualification, and a lack of use of universities for the training of practitioners employed by private providers. This is likely to decrease the understanding of research by many employed in the sector.

[13] There has been an expansion in research units focussing on specific aspects of VET in some TAFE institutes (for example, units focusing on competency-based training and on assessment) but the lack of an effective 'market' in research has meant that practitioners who work elsewhere are not necessarily well-served by such units.

[14] A participant at the symposium also suggested that VET providers are undertaking more evaluative studies of their performance and how it might be improved, in response to the same overall pressures.

[15] However, the ACE sector can be the *subject* of research, that research often being sponsored by the training authorities.

[16] The presenter commented that 'this is at the heart of the way we are re-thinking the [research] system in New Zealand'.

[17] The case studies revealed that the various settings are not necessarily independent; there can be alliances and overlapping interests among them that serve their mutual interests.

[18] The increased pressure on university researchers to seek outside funds has blurred these distinctions somewhat.

[19] For the definitions of 'research and development' and 'local research studies' see chapter 4.

[20] The eight areas are: curriculum development and/or delivery; assessment; students/trainees; organisation or provision of VET; support facilities/planning or design; teachers/trainers; policy and economics; and industry issues.

[21] See chapter 3, section 3.5.3.

Chapter 1
The Impact Project outlined

1.1 The research question

In April 1996, ANTARAC advertised that it would fund a research consultancy to 'review the evidence for and where possible evaluate the extent of influence of research in vocational education and training'. The council said that it was particularly interested in the impact of research in three areas: policy and planning, practice and performance, and community relations.

The research consultancy (the Impact Project) was awarded to the Monash University-ACER Centre for the Economics of Education and Training, in association with the Research Centre for Vocational Education and Training at the University of Technology, Sydney (UTS). The chief investigator is Professor Chris Selby Smith from Monash, with Professor Rod McDonald and Mr Geof Hawke from UTS and Ms Joy Selby Smith, a private consultant. The UTS contribution was particularly to the quantitative studies reported in chapters 4 and 5.

1.2 Five complementary approaches

In the tender accepted by the funding body the research team stated that 'we know from studies of the use and impact of research both within education and in similar areas that the relationship between research and its outcome is almost always complex and not easily discerned . . . (and that) . . . it is important to note that we do not expect to detect easily the impact of particular pieces of research'. It was proposed therefore that the research question should be examined from a number of different perspectives. Five complementary approaches would be employed:

- a review of relevant literature, noting that there is no single approach to the issue of the impact of research, either generally, or specifically in vocational education and training (VET)
- a symposium, to identify key issues promptly and draw on different perspectives and approaches to the research question

- quantitative studies to provide information on the scope and nature of the impact of VET research
- case studies, to explore the influence of the factors identified in the literature and in discussion at the symposium in the context of particular situations (the case studies provide a richness that cannot be obtained from quantitative responses alone)
- a reference to overseas experience and perspectives. A paper setting out preliminary findings would be circulated to informed overseas commentators with an interest and expertise in the subject matter

The researchers also proposed, and the funding body accepted, that particular attention would be given to the impact of research on policy and planning, and practice and performance (referred to together as 'decision making'). Less attention would be given to community relations aspects.

Attention is drawn to four matters relating to how the Impact Project has been undertaken. First, although each of the five approaches is mutual, nevertheless, each provides a rather different perspective. Their particular contributions are reported in the respective chapters. Together, these contributions form the basis of the synthesis chapter.

Secondly, there is a consistent framework underlying the five approaches. The literature and our prior research experience with research impact questions has led us to the view that to 'review the evidence for and where possible evaluate the extent of influence of research on vocational education and training' necessitates an understanding of the dynamics operating in each of three areas: in decision-making, in research and in the linkages between the research and the decision-making domains.

Thirdly, the five complementary approaches are not entirely separate: there has been interactions and overlap between them, to the benefit of the Impact Project. While numbers of people were involved in different aspects (undertaking case studies; participating in the symposium) the research team was involved in each of the five approaches. This involvement facilitated interactions among them: for example, the literature review influenced the symposium structure; symposium participants identified additional literature and informed the research team's approach to the case studies.

Finally, the Impact Project has been a learning process during which the research team's understanding was refined and knowledge accumulated. Chapters written at different stages reflect this learning process. The synthesis chapter written at the end of the project represents the knowledge accumulated.

1.3 Definitions

The definitions set out below are those we worked with when we commenced the Impact Project. Some definitions remained unchanged, others were modified during the progress of the Impact Project as the research team's knowledge accumulated.

1.3.1 Research

The initial approach to defining research was the OECD (Frascati Manual) definition used by the Australian Bureau of Statistics as the basis for the *Australian standard research classification* (ABS 1993).

R&D comprises 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this knowledge to devise new applications'.

The ABS notes that R&D is 'characterised by originality. It has investigation as a primary objective . . . R&D ends when work is no longer primarily investigative' (ABS 1993, p.3).

The ABS recognises that there may be difficulties in separating the boundaries of R&D from the subsequent implementation phase. Listed among the 'obscure boundaries' having relevance to this particular project are:

- general purpose or routine data collection
- policy-related studies

The ABS advises that 'collecting data in support of R&D work is included in R&D'. Data collection of a 'general nature', to record phenomena of a 'general public or government interest' is excluded. Notwithstanding this advice, we considered there was value in listing such data collections for the benefit of researchers and other users.

In relation to policy-related studies, the ABS concedes that to determine the boundaries is 'complex' and that 'rigour' is required. Policy-related studies are defined in the Frascati Manual to include 'analysis and assessment of existing programs, continued analysis and monitoring of external phenomena (e.g. defence and security analysis), legislative inquiry concerned with general government departmental policy or operations'. Substantively, the ABS advises that 'studies to determine the effects of a specific national policy to a particular economic or social condition or social group have elements of R&D. Routine management studies or efficiency studies are excluded' (ABS 1993, p.4). Again, notwithstanding this advice, our view is that the funding body brief would favour the inclusion of routine management studies and efficiency studies, particularly in relation to 'practice and performance'. In fact, the principle of inclusion was to characterise the research team's approach to 'research' in all phases of the project: it was intended to include 'development' as well as 'research'.

The approach adopted is consistent with the view of research taken by McDonald et al. (1993), when they include:

> *All conceptual or empirical investigations which contribute to our knowledge about vocational education and training and factors directly relevant to it, no matter how this knowledge is obtained, and the non-routine application of this knowledge.*

They emphasise, however, that in vocational education and training it is often difficult to distinguish research from development.

Defining research by reference to its essential attributes.

The ABS definition is useful for defining the boundaries between what does and what does not constitute research and in the present study it is used for this purpose in chapters 4 and 5. However, in a previous study which sought to establish the role of research in public policy decision-making (Selby Smith et al. 1992a), the ABS definition was found to need teasing out further to identify those essential attributes of research which are the inputs into decision-making. Research can also be defined by reference to these attributes.

A common starting point in the literature has been to view research as providing information. More particularly, research has been seen to provide new and better information, including to new audiences and in new settings. Another critical attribute of research relates to what might broadly be defined as research skills and attitudes. Here the contribution of research is not so much a particular set of findings but an approach, a way of doing things or of assessing alternative sources of information. Thirdly, the research system provides appropriately educated people. As Mr Dawkins, the former federal Minister for Employment, Education and Training has said: 'Australia's educational institutions make perhaps their most important contribution to our research effort through the provision of skilled personnel' (Dawkins 1989). In terms of the Impact Project, research is defined in terms of its attributes: in particular, information; research skills and attitudes; and appropriately educated people.[22]

Research and the publication of research results

The ABS definition of research (R&D) characterises R&D as 'creative *work* (our emphasis) undertaken . . . to increase the stock of knowledge'. Selby Smith et al. (1992) found that there was a widespread tendency to limit research to publications. The report of that study argued that 'reporting and accessibility of research is to be distinguished from the research itself'. It was considered that this distinction should be maintained for the Impact Project, including for assembling the database of VET research. Primacy is placed on research studies rather on whether the study is published (or where). A related point is that attention is given to the performers of research rather than to funders. Of course, this is not to deny that what is performed can be influenced by what funding is available and on what terms.

1.3.2 The scope of the areas of decision-making proposed by ANTARAC

The funding body indicated that it was particularly interested in the impact of research in three areas of VET: policy and planning; practice and performance; and community relations. The research team undertook to address research in relation to these areas, but to give particular attention to the first two. The areas of decision-making in VET were not defined by the funding body.

Policy and planning

Policy involves decisions to determine the broad parameters of a given functional area of government. Generally, policy decisions reflect the elected government's priorities at national or at State/Territory level and broad political considerations have a particular influence at this level. Policy decisions are about establishing the overall legislative and organisational framework in a given functional area (in this case, vocational education and training), determining the major programs and the level of resources available to support the functional area.

Planning decisions are directed towards determining the major program elements and the allocation of resources among these elements, within the overall legislative, organisational and budgetary framework that reflects policy. Planning decisions focus on establishing the parameters (including financial and human resources) and organisational structures to support the implementation of major programs having regard to effectiveness and efficiency criteria but also, often, political considerations.

The locus of many policy and planning decisions is at the level of national and State or Territory governments, within ministerial offices, in departments and agencies. However, it can also be at the level of individual training providers, particularly where systems are more devolved or the degree of devolution is changing.

Practice and performance

Decision-making and actions relating to practice and performance are concerned primarily with the delivery of services at the local level: the provision of vocational education and training by individual providers to trainees and industry. Policy and planning made operational contributes to practice and performance. Decisions and actions to achieve the most effective and efficient use of resources, once policy has been adopted and program elements have been determined and resources have been allocated, constitute practice and performance. These decisions are located particularly at the level of the individual training provider; however, they can also be located in operational areas of departments and agencies, the more so, the more centralised the system.

Community relations

Decision-making and actions relating to policy and planning, and practice and performance are often focussed at different levels within the VET system. In contrast, community relations are concerned with the interactions between VET and the wider economic, political and societal systems. These interactions will be multi-faceted. Relations may occur at all levels—national, State and Territory, regional, locally and between individuals. They may be conducted through formally constituted channels or informally. They may be structured or *ad hoc*. Community relations, while important, may be only diffusely related to research, *a priori* to particular research projects or recommendations; and the precise relationships are likely to be difficult to estimate precisely and influenced by a range of other factors.

1.3.3 'Impact' of research

In the consultancy brief, the funding body refers to the 'impact' of research; their research question refers to 'influence'. Set out here is the research team's initial understanding of 'impact'. However, as the Impact Project developed, the concept was substantially elaborated, particularly as a result of the symposium and the case studies.

The concept of 'impact' of research on decision-making was seen to have a number of aspects. In relation to the impact or use of research findings, Weiss (1980) has commented that 'some limit the definition of use to the adoption of the explicit recommendations of a single study. At the other extreme, some people discuss their use of research in terms of sensitivity to [social science] perspectives'. In a more recent article, Weiss (1986) concluded that it often takes time and patience and multiple messages conveyed through multiple channels before social science has an impact.

In fact, as noted in our submission to the funding body, the impact of research can be indirect as well as direct, minor individually but major in combination, additive as well as separate. Indirect and additive effects could amount eventually to a very significant impact, even though the impact could not be identified with any one study. A distinction can also be drawn between the use of research in making specific decisions and their potentially more general influence—'ideas in good currency'. The argument here is that impact of research findings, if impact implies leading to concrete identifiable action, is too restrictive. This is for two main reasons. First, it is too simplistic in its view of decision-making and of the role which research may have in it. Secondly, interest could centre on decisions not to act, as well as on decisions to act. To decide *not* to act is as legitimate an outcome of decision-making processes as to decide to act.

Also, in a more general sense, the 'impact' of research outputs in decision-making includes the individuals who participate in the process. It involves their education and training, their research skills and attitudes. Nevertheless, it should be noted that, just as the input of research-based information into the decision-making process is only one of a number of information sources, so too do decision-makers draw upon their experience, judgement and other personal attributes, as well as on their education and training, their research skills and attitudes, in making decisions.

1.3.4 Vocational education and training

The funding body specified that the Impact Project considers the influence of research 'in vocational education and training'. However, there is no common or agreed definition of 'vocational education and training' and the boundaries between the VET sector and other education and training sectors are blurred.

This project adopted the use of the term as commonly used and understood: vocational education is defined as all formal post-school education which prepares students for (or further develops their skills in) a specific vocation or for work generally, up to and including the level of para-professional occupations. This definition includes literacy and basic education programs, as they also prepare students for work generally. 'Training' has been taken to include both on-the-job and off-the-job training to a similar level.

1.4 Scope of the project

In considering the appropriate scope of the Impact Project, attention was given at the outset to four matters: the boundaries of VET research; the geographical coverage of the research; the time period; and the alternative perspectives of research and decision-making.

1.4.1 Boundaries of research in VET

The project is concerned with the impact of research in VET. Research studies that focus specifically on VET and aspects of it are clearly within the scope of the research project. There are also studies that focus on issues that relate primarily to other sectors but where links or applications to VET are established. These studies are to be included. However, there are some wider studies whose findings could have implications for VET. Studies in these categories generally were not to be included.

1.4.2 Geographical coverage of research

In terms of coverage, it was proposed that the Impact Project includes:

- work carried out in Australia on Australian VET issues
- work carried out in Australia on wider or theoretical issues or both where links are drawn with VET
- work on VET originating overseas, which includes Australian coverage or is directly relevant

Given the purposes of the consultancy, no significance is attached to the particular State or Territory where the research was performed. However, account was to be taken of the particular organisation in which the research was performed.

1.4.3 Research time frame

The time frame in which studies were considered eligible for inclusion in the inventory is necessarily arbitrary, at least in reference to its commencement. In the Impact Project the starting date chosen is 1987. There have been significant changes in vocational education and training since the late 1980s (collectively known as the national training reform agenda) and studies commenced since the ACTU/Trade Development Council report *Australia reconstructed* (1987), which had a major influence on the development of the training reform agenda, are to be included.

1.4.4 Research and decision-making perspectives

In the tender submitted by the research team and accepted by the funding body, it was argued that the relationships between decision-making and research can be considered from two broad perspectives: from the perspective of research and from that of decision-making. One can seek to understand the implications of a particular research study (or a group of research studies) for some subsequent decision. However, earlier studies have indicated that the research perspective can narrow the focus of the investigator, so that the impact of research is overstated (the 'key hole' problem). Such studies tend to focus on the research process and the research outcomes and underestimate the complexity of the decision-making process (particularly in government). Generally, the perspective of decision-making and action is the primary focus in this project, including for the quantitative studies.

1.5 Outline of the report

The report of the Impact Project includes six chapters of which this is the first. chapter 2 presents a review of relevant literature. Chapter 3 is the report of the symposium held in February, 1997. An analysis of Australian research on VET is given in chapter 4. Chapter 5 reports on the use of research by VET decision-makers. The final chapter reports on the nine case studies undertaken as part of the Impact Project.

The contributions of each of the complementary approaches reported in chapters 2 to 6 are brought together in the synthesis chapter. This chapter represents the considered response of the research team to the research question posed by the funding body. It also takes into account the responses to an earlier draft from overseas correspondents with expertise in the area.

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Footnote

[22] The National Board for Employment, Education and Training (NBEET) in its 1994 report *The strategic role of academic research* classified the benefits of higher education research under four headings. First, in terms of its contributions to the culture of Australian society. Secondly, the provision by educational institutions of graduates of high quality. Thirdly, the availability of increased institutional capacity for consulting, contract research and other service activities. Finally, the report identified international links flowing from research in higher education as significant for establishing and maintaining Australia's status in the international community.

Chapter 2

Literature review

2.1 Introduction

A review of the literature is one of the five complementary approaches the research team has said it would employ to investigate the research question posed by the funding body: 'to review the evidence for and where possible evaluate the extent of influence of research in vocational education and training'.

In the tender accepted by the funding body, we said that 'we know from studies of the use and impact of research both within education and in similar areas that the relationship between research and its outcomes is almost always complex and not easily discerned . . . (and that) . . . it is important to note that we do not expect to detect easily the impact of particular pieces of research'. Further, we anticipated that the impact of research would often be indirect rather than direct; delayed rather than immediate; often minor individually, but more substantial taken together; and a combination of specific information with skills and attitudes developed through involvement in research.

It was expected that the research team's knowledge gained from the literature would develop further during the life of the Impact Project. This was foreshadowed in the tender. It was also foreshadowed that the symposium presentations and discussions would identify and draw on relevant literatures. In fact, the literature review advanced the research team's thinking on impact issues as well as informed the symposium, the quantitative studies and the case studies; which in turn, enriched our understanding of the research question.

As set out in chapter 1, the research team's approach is framed by two considerations. First, the perspective on research impact is that of decision-making rather than that of research. Secondly, the factors which affect the use and influence of research in decision-making lie in three areas: within the relevant decision-making systems; within the research system; and within the web of linkages, which serve to transmit research outputs to decision-makers and the needs of decision-makers to the research system. The review of the literature is organised by reference to these considerations.

The chapter is organised in five sections of which this introduction is the first. Section 2 reviews literature related to decision-making. The research settings are the focus of section 3. Section 4 considers the literature relating to linkages. Finally, the particular matters where the research team's thinking has been advanced are brought together in section 5.

An analysis of Australian research on VET undertaken between 1988 and 1996, based on the Impact Project's inventory of 1068 significant research activities, is given in chapter 4 rather than in this chapter.

2.2 Decision-making[23]

The widespread acceptance that research rarely has a direct impact on decision-making (the simple, linear, one-study-to-one-decision approach) has led commentators to look carefully at decision-making processes and the functions of research in them. Anderson and Biddle (1991) have provided an edited selection of earlier literature on the nature of social research and the ways in which it interacts with policy and practice in education.

In the literature many contributors have emphasised the information role of research, but others pose an enlightenment function: 'researchers bring not so much discrete findings as their whole theoretical, conceptual and empirical fund of knowledge as one input into the decision-making process'. (Weiss & Bucuvalas 1980; see also Sabatier 1987) Similarly, Klein (1990) comments that research can offer 'new ways of conceptualising the world and mapping the decision-making terrain, as well as challenging conventional assumptions'.

Two other points are noted here. First, there are different stages in the policy process and research can impact on decision-making differently at the various stages. Palmer and Short (1994), for example, have argued that there are five stages in the policy-making process: problem identification and agenda setting; policy formation; adoption of the policy; policy implementation; program and policy evaluation. In an ideal policy environment evaluation is likely to be incorporated into the implementation process, so that both the implementation process and the policy outcomes are evaluated (with appropriate feedback). The study by Anderson and Scott (1997), for example, examines the use of research to assist policy implementation, arguing that 'when time is short, the policy specialist becomes the researcher and the role of the research consultant becomes one of working side by side with the policy specialist'.

Relatedly, Rist (1994) has argued that there are two levels of decision-making in the policy arena: the establishment of the broad parameters of government action (when 'policy research input is likely to be quite small, if not nil'); and when concern focusses on translating policy intentions into policy and programmatic realities (where 'there are possibilities for the introduction and utilisation of policy research'). Rist considers three phases of the policy cycle (policy formulation, policy implementation and policy accountability), each of which 'has its own order and logic; its own information requirements; and its own policy actors'. Rist concludes that there is only a limited degree of overlap among the three phases, suggesting that they merit individual analysis and investigation.

Secondly, the OECD has suggested that the balance between governmental and individual responsibility for learning and adjustment to change, including new information, has been altered by recent theoretical developments (OECD 1994). The shift in assumptions away from neoclassical economics towards more realistic industrial organisation assumptions favours policies that remove imperfections in the labour market and leave more choice and responsibility to the individual (see also Carnevale 1995).

2.2.1 Research as information

Information is a key input into the making of policy and social science research has become a major supplier of it. Some argue that research provides new and better information; others that it is 'more rational information', or that the quality and accuracy of knowledge based on research is better than that obtained from 'reactive data gathering'.

There are counter arguments, however: for example, a number of writers have noted the 'incomplete' nature of much of the research-based information, at least from a decision-maker's perspective (Harmsworth 1997). In addition, 'many decision-makers have been immersed in the substance of program and policy issues for decades. They have rich first-hand experience and many sources of direct information. The contribution that social research studies can make seems marginal at best' (Weiss 1986). The information provided by research may be seen as incomplete in terms of its scope and the power of its explanations (Harmsworth 1997). It is often specific in terms of time and place. It can also be seen as incomplete because it is ill timed and ambiguous in terms of its prescriptions and diagnoses (Klein 1990). Brown (1991) concludes that the most important policy choices depend upon public sensibilities that are beyond the power of research to shape; '(research-based) knowledge can only carry society so far'.

The balanced view, it is argued, is to regard information derived from research as one of a number of sources of information available to decision-makers and information from all sources as only one of many inputs into the decision-making process. Hall (1993b) concludes that 'in Australia, there is a plethora of reports, a great deal of opinion and a bit of research, some of which has policy implications'. Brown (1991) comments:

> *on a good day, ideas [information] may gain a hearing amidst the swirl of political considerations, but it must be a very good and rare day indeed when policy-makers take their cues mainly from scientific knowledge about the state of the world they hope to change or protect.*

Categories of research information. Of course, the information provided by research is not undifferentiated. It can be categorised according to the role it might play in the decision-making process, by the type of research and according to its disciplinary focus. Brown (1991) has identified three main *roles* for research in decision-making: it can document, gather, catalogue and correlate the facts that describe the state of the world; it can analyse and show what does and does not work (and why); and it can prescribe solutions to problems. Furthermore, some roles are more useful in the decision-making process than others. Brown's view is that, at least from the US experience, research has tended to be most directly of value in documenting the system, more erratically useful as analysis and least effective in prescribing solutions to concrete problems. Rist (1996) argues that research on education might usefully investigate when and why a particular policy instrument should be chosen in preference to another. The Steering Committee for the Review of Commonwealth/State Service Provision (1997) noted the research contribution to policy development via 'the big ideas'. The report examined case studies on three reforms—a shift to purchasing of community services in South Australia; output based funding of public acute inpatient hospital care in Victoria; and competitive tendering and contracting of prisons in Queensland. The focus of the case studies was on how the reforms were implemented; why each option was chosen; and how those decisions affected the reform. However, it was clear that ideas, the accumulating body of knowledge and research over a considerable period, had substantially influenced the three reforms.

Finch (1986) distinguishes between *types* of research and makes claims about which has had the greater use. Finch differentiates between qualitative and quantitative research and claims that in the UK qualitative research has had less impact than quantitative research. She argues that decision-makers find statistics and quantitative research more useful, for it leaves control in the hands of policy-makers. Hall (1993b) has emphasised the strong statistical base for VET research, policy and practice in Australia. Hirsch (1996) reported a wide consensus at a recent OECD conference that quantitative indicators can be important for the understanding of educational systems.

Fox (1990) argues that certain *disciplines* have tended to be used more often in decision-making: which disciplines, he argues, depends upon the current values of policy-makers. Fox claims that in the USA during the 1980s, research based on 'economising' values (i.e. 'research based on economic reasoning but embracing some other considerations') tended to be used more often than, say, research based on social conflict or collective welfare approaches, 'because it was consistent with the values held by the most influential people in American politics'. Similarly, Brown (1991) notes that research results from the 'dominant persuasions', the economists, technocrats and planners, are used more often than the research of sociologists, anthropologists and historians who tend to 'stand on the sidelines'. However, Anderson and Biddle (1991) argue that social psychology, sociology and anthropology (and occasionally history, political science and economics) are the social science disciplines that have had the greatest impact on education.

These studies focus on the information role of research in decision-making, but what of the decision-making process itself? Ham and Hill (1984; see also Ham 1997) have argued that the study of social policy-making should concentrate on analysing three areas: the actors' assumptive worlds; the formal policy process, and the distribution of power. Later studies have adopted a broadly similar approach and have sought to understand how factors in each of these areas affect the use of research information (see also the User Choice case study in chapter 6).

A distinction has been drawn between research outputs, that is new 'knowledge' or raw 'information', and that which is transferred into the decision-making process, that is 'learning' or 'useful knowledge' (Evans 1986; Lomas 1990). Evans sees 'learning' as the evolution of assumptions and beliefs. Their approach is that the impact of research information depends essentially on its ability to change relevant audiences' beliefs or policy assumptions: core values (akin to ideologies and highly resistant to change) filter the types of message that find resonance with the currently held set of beliefs. For research information to be transformed into useable knowledge, the values underlying the research need to be congruent with the values of the relevant audiences. Pusey (1991) investigates the background, values and operating assumptions of senior executives within the Australian Public Service (APS), while Matheson (1997) discusses how information is used in the APS.

This general approach can be differentiated in a number of ways. First, the involvement of powerful sponsors or 'champions' who identify with the research results—and indeed with the researchers—tends to increase the likelihood that research will have an impact on decisions. As Weller (1996) notes, 'every area of reform needs a champion committed to its progress'.

Secondly, if a group which is the subject of a research study (for example, teachers, Aboriginals or trainees) identify with the researchers the resulting recommendations are more likely to be acted upon, especially if the subject group is involved in the implementation process (NBEET 1994). The case studies of Creek and Dwyer illustrate this situation.

Thirdly, Klein (1990) argues that if values are congruent then the research results are more likely to be used, whether or not the results are ambiguous. Strong unambiguous findings can be closed out by decision-makers, especially if there is a strong consensual counter-wisdom among the relevant policy-making constituency or audience. Of course, absolutely unambiguous findings from research or evaluations on VET issues may be the exception rather than the rule, especially in relation to contested issues.

Finally, participants in the decision-making process tend to use findings selectively in their own interest. Information can find resonance if an opponent can be disadvantaged (or persuaded) or the heat taken out of a contentious issue. Group or individual values may predispose the decision-maker towards particular information, towards particular staff or towards particular processes (Weiss 1989).

The formal policy process, including institutional arrangements, can influence the process of resonance between research results and the core values and beliefs of decision-makers. Lomas (1990) contrasts the history of decision-making at the individual, administrative and legislative levels in Canada with that found in Britain and the US on the grounds that different institutional arrangements result in distinctly different patterns of audiences for policy research. Whitney (1996) argues that the lack of a federal structure and small size are among the factors that influence the impact of research on educational policy in New Zealand. The values and beliefs of various audiences are important both as the target to be influenced by research information and as a determinant of the types of research that are made available or can gain access to the audience.

In Australia, the federal system of government has an important influence on institutional arrangements generally and in VET (Robertson & Beresford 1996). The division of responsibilities between levels of government can prevent the generalisation of a study's impact or mean that no overall authority governs the adjustment process. Further, if different States and Territories have different value and belief systems it can mean that research studies have to 'change beliefs and policy assumptions at numerous locations in the decision-making structures before any substantive impact can be seen' (Lomas 1990). Also, within any given level of government, either at the State or Commonwealth level, the continuing changes in the division of functions between departments and agencies and the high turnover in staff at all levels of the relevant bureaucracies make it difficult to determine where different types of research might best be targeted.

Governmental decision-making is a highly complex and interactive set of processes. It involves many actors and a multiplicity of decisions to act or not to act, determined often in a number of agencies or in large organisations where responsibility for the various levels of decision-making is widely distributed (Weller 1996). Key stakeholders, including professional, union and industry groups, often have an input into these decision-making processes; their input is related to the distribution of power among them, and may affect the extent to which research is used (indeed, which researchers have audience).

Palmer and Short (1994) have argued that analysis of the concepts of power and interest indicate that issues may not reach the policy agenda because the agenda is controlled by those who have an interest in retaining the *status quo*, and perhaps because in some cases those who would stand to benefit from changes in policy and practice accept the *status quo*.

Thus, a set of objective conditions is not by itself sufficient to explain why particular problems or issues are defined as problematic and worthy of research. The studies chosen and the way in which research is undertaken can provide opportunities for particular interest groups to affect the organisation, delivery and perceptions of VET policies and programs. Wiseman (1978) advanced certain criteria influencing the choice of topics for detailed research from a rationalist perspective, such as the size of the issue, its future implications and the political setting. Other British writers have argued that potential issues for study must pass three tests if they are to survive: to command attention, to claim legitimacy and to involve action (for example, see Ham 1985). Milward and Laird (1996) identify issue characteristics that might affect the agenda success of an issue: the issue is dramatic; the issue is driven by demographics; the issue is driven by an increase in the problem; and the issue has no credible opposition (noting that issues can be driven by public opinion and issues can be changed by the length of time they are on the agenda).

Another aspect is that decision-making tends to be fragmented in large organisations; it is only at the apex, at very senior levels, that a capability exists for formulating priorities across the board. However, at these levels officials generally have a range of other demanding responsibilities and may not have sufficient time to devote to particular problems and their possible solutions. Given the pressure they are generally under the 'window of opportunity' for VET decision-making is often quite short in practice, which makes it more difficult for researchers interested in public sector decision-making to target their independent research in a timely way.

The issue attention cycle can also involve substantial fluctuations in the intensity of public concern with particular issues and rapid shifts from one issue to another (Downs 1972). VET, because of its media potential and relevance to a broad section of the community, may be more than usually susceptible to this phenomenon (compared with some other areas of governmental decision-making), which can place considerable obstacles in the path of VET research being effectively linked to policy and practice. See also Schon (1971) who argues that there are more policy ideas than can ever be dealt with; so which ideas are dealt with, and why? Peters and Hagwood (1985) examine the approach retrospectively.

Finally, it should be recognised that it does not automatically follow that a change in policy will result in a change in practice or improve the educational outcomes for VET participants. A United Kingdom (UK) study has concluded that 'what emerges with force is that a seemingly 'well-designed' central policy—even when matched by resources—is not sufficient to ensure implementation if it challenges the motivations and inclinations of those who carry it out locally' (Lee & Mills 1982). For example, VET providers and those working in them may be reluctant to abandon methods that are in place and whose replacement might have significant consequences in terms of status and the need to retrain, as well as changes in capital equipment and infrastructure. Lipsky (1980) showed that people at the grassroots would either ignore or deliberately thwart government policies if they believe that honest efforts to implement them will make their lives impossible. Implementation is likely to be more extensive if key groups and individuals have previously been made aware of the developing evidence for change and the costs and benefits of alternative courses of action. Close and on-going linkages with research personnel throughout the research process would facilitate this situation.

2.2.2 Other research inputs into decision-making

In chapter 1 it was noted that the other research inputs into decision-making are research skills and attitudes and trained personnel. These inputs have received less attention in the literature than those concerned with information have. However, it can be argued that factors similar to those discussed in relation to research information will also influence the use of research skills and attitudes and the use of trained personnel in decision-making. Illsley (1988) has argued that when a body of knowledge exists, is accepted and used in practice, it is likely to be the background against which decisions are reached (whether consciously or unconsciously), providing positive or negative experiences and evidence for or against alternative courses of action. The larger that body of knowledge and the more it is put into circulation, the greater its effect is likely to be.

Just as decision-making favours particular categories of research information, so it may select persons trained in particular disciplines, e.g. economics, education or law, or having particular skills, e.g. quantitative skills. Clearly, the skills of the available trained personnel need to be related to the perceived requirements of decision-making if they are to make their most effective contribution. Of course, the patterns of disciplines and skills may vary between organisations according to their responsibilities and functions. For example, the separation of policy-making and program activities may result, in the VET sector, in different concentrations of, say, administrators and educationalists in different organisations. One implication is that the particular institutional arrangements may limit the effectiveness of personnel, perhaps particularly where the institutional arrangements do not work smoothly at the point of organisational interaction.

2.2.3 Decision-making in VET in Australia

The same broad framework, that policy development can be analysed by reference to three elements, the formal policy process, the distribution of power among stakeholders and the assumptive world of the key players, has been used specifically to analyse VET decision-making in Australia (Selby Smith & Selby Smith 1997). It was noted that it was how these interactions were played out that determined the policy outcomes and the role that research played in the decision-making process.

Even in the simplest case, an initiative from one minister and department, with sole responsibility for policy development and implementation, and involving one level of government only, there can be a range of players (the functional department, Finance, Premier and Cabinet, etc. and external stakeholders) and their interactions need not be straightforward. In VET, these interactions are more complex. At least four factors were identified as contributing to this complexity.

First, the ANTA Agreement makes for complicated patterns of interaction in the development of VET policy. ANTA—the ANTA Board—is neither a State/Territory nor a Commonwealth body. It provides advice to a ministerial Council, which includes all relevant State, Territory and Commonwealth ministers. The balance of power and influence between these parties is not necessarily settled and the boundaries between 'operational responsibilities' and 'national policy' can be contentious. VET remains contested territory.

Secondly, there are interactions between VET policy processes and the broader policy approaches and stances of each of the parties to the ANTA Agreement. These patterns can, indeed do, vary between the States and Territories. For example, a State or Territory may decide to support administrative rather than market reforms; to go slow on micro-economic reform rather than pursue reform actively; or to take different approaches to public sector financial and management arrangements. These discussions tend to be 'whole of government' rather than VET specific.

Thirdly, there are complex patterns of interaction in terms of the power relationships of the key VET stakeholders. Recently business has assumed a more powerful position. The Liberal Party pre-election platform (Liberal Party of Australia 1996) indicated that 'we will ensure that industry plays a central role in driving the national training agenda and that training more closely reflects industry needs' and that a Liberal Government would replace the existing arrangements 'with an industry and enterprise driven training system'. Of course, patterns of interaction between the key stakeholders can change comparatively quickly.

Finally, there are differences in the assumptive worlds—the experiences, values and beliefs—of the key participants in the VET decision-making processes, which affect the interactions between them. For example, one worldview sees training as an end in itself, while another sees training as a contribution to the enhanced competitiveness of enterprises and the development of individuals. In this regard there is a substantial difference between the assumptive world of the industry partners, including enterprises, trainees and unions, and the assumptive world of the educators, especially among public providers (perhaps less so among the private providers and the industry trainers). Another worldview still focusses on TAFE rather than VET. There are also personal differences, which in this relatively small policy-making community can influence significantly the patterns of interaction and have important practical consequences for VET.[24]

At the State level Goozee (1994) has noted that the NSW Board of Vocational Education and Training is both a generator and supporter of research; and a major consumer of research. The board's involvement in research and development is closely related to its functions and includes the co-ordination of NSW submissions for interstate and co-operative projects and national project funding, management of national projects and initiation of research related to current national and State policy and planning issues. The main areas of the board's research and development activities at that time were related to: State and national planning; quality; policy development; labour markets; expanding the training market; equity; and regional advisory structures. Similar arguments apply in other States and at the national level. See also Harmsworth (1997) who contrasts policy-makers ('busy, pragmatic, political, incremental and focussed on real world concerns') with researchers ('reflective, rigorous and removed from system management'). He stresses four other aspects: policy-makers are traditionally driven by ideology, whereas researchers are sceptical; policy-makers work at the macro level, whereas researchers are more often focussed at the single issue level; policy-makers typically have limited levers to pull, whereas researchers identify uncomfortable complexities; and the long lead times between policy and practice mean that the agenda may have moved on before any investigative evaluation takes place.

2.2.4 Decision-making at the practitioner level

The OECD (1996) has noted that devolution in decision-making in education has multiplied the points at which knowledge is needed. In this context, knowledge needs to be transmitted to multiple actors and to be disseminated from one part of the system to another, rather than merely being passed from a single set of researchers to a single ministry. Teachers are increasingly requiring the capacity to take note of and respond to evidence from a variety of sources, including research, development, innovation and evaluation. In a decentralising system, moreover, the line between the producers and consumers of knowledge becomes ever more blurred.

In Australia, NBEET (1994) has argued that professional development should be viewed as a continuum consisting of the initial or pre-service preparation of teachers, their induction into teaching as a career and their continuing professional growth during their career. They promote the idea of the education provider as 'an educative workplace/learning community for all those who work there'; and give attention to the most appropriate mix of institutional and workplace learning for teachers (table 2 is a useful summary of conditions which can act to facilitate or inhibit workplace learning by teachers, including knowledge, culture and leadership: the report also includes an extensive bibliography). They emphasise that a significant proportion of the workplace learning of teachers is concerned with transforming knowledge, beliefs and values commended by others, into classroom practice. Workplace learning can be stimulated in many different ways, but once stimulated, it occurs in both informal and planned ways. See also Australian Research Council (ARC 1992), which argues that many of the improvements that flow from practitioner action research escape notice in the conventional educational research literature: the justification of action research is the improvement of practitioners' own practices, and writing for others is seen as secondary to this purpose. The German VET research institute in Berlin (BiBB) has taken a close interest in the interactions between teaching, learning and working in VET (see Kearns et al. 1993).

Owen (1995) has noted the increased interest in practitioner use of relevant findings from professional social enquiry, i.e. the existing range of research and evaluation strategies. The more closely linked are the knowledge producers and practitioners, the more likely it is that new knowledge will be used. Owen draws attention to five dimensions of implementing research findings: institutional structural arrangements; the content of the innovation; the behavioural manifestations of role relationships (especially the interactional aspect of roles rather than the individual behaviours implied by the innovation's specifications); the knowledge and understanding that users have about the innovation; and values, including commitment to the innovation. He concludes that value changes follow changes in practice (see also Guskey 1986). In terms of strategies for increasing the use of the knowledge gained through professional social inquiry Owen follows Backer (1993) in arguing the importance of four areas: utilisation requires individual and organisational change; utilisation requires resources; innovation adopters must be aware of the program or practice; and the adopters of innovations must be convinced that the innovations will work in their particular setting, meeting specified needs over time without excessive side effects or unreasonable cost. Backer also emphasises the importance of individual and organisational champions, and the early involvement of potential users (including with respect to how the innovation is to be introduced and how commitment to its ongoing use is to be embedded). Owen, Lambert and Stringer (1994) argue that even the best presented research reviews and empirical investigations are unlikely to change practice without a recognition that effective use of new professional social inquiry knowledge implies changes for individuals which must be supported by their agency: 'implementation often has to be done alongside ongoing day-to-day tasks, placing enormous pressures on the capacities of site workers'.

In her keynote speech to ANTARAC (Vickers 1995) Vickers argued that the people who chiefly determine whether research findings are implemented (those 'who make the most difference') are those closest to the action, such as teachers, students, employers and the unemployed. She concluded that effective training reform demands 'more empowerment of the practitioners, because they are the agents of change at the local level'.

Harmsworth (1997) argues that, for research to influence and improve practice, 'researcher engagement with practitioners is critical. In VET this means research partnerships with teachers and trainers and often enterprise employees'. If partnership is absent it is likely that, even if researchers uncover valuable lessons regarding learning, it will not affect practice. The Victorian Office of Training and Further Education (OTFE) views action research in the workplace involving the active involvement of practitioners as having been particularly successful in the VET sector.

Similar conclusions about the importance of practitioner characteristics and the context in which practitioners operate are found in a number of studies, for example, Cousins & Leithwood (1986); McColskey, Altschuld & Lawton (1985); and Kennedy (1984). A Canadian study (Cousins & Leithwood 1986) of 65 evaluation studies in education, mental health and social services concluded that use was most strongly evident when evaluations were appropriate in approach, methodological sophistication and intensity; the decisions to be made were significant to users and of a sort considered appropriate for the application of formally collected data; evaluation findings were consistent with the beliefs and expectations of the users; users were involved in the evaluation process and had a prior commitment to the benefits of evaluation; users considered the data reported in the evaluation to be relevant to their problems; and a minimum amount of information from other sources conflicted with the results of the evaluation. McColskey, Altschuld & Lawton (1985) investigated characteristics of principals related to their reliance on formal and informal sources of information in their jobs. They found that those principals who indicated that they relied more extensively on information, both research based and other information, in reaching decisions were also more likely to have other associated characteristics, including feeling that they had some autonomy in the administrative hierarchy, to be open to new information and to report having had more training in social science research methods compared to other principals, who relied less on information in performing their jobs. Kennedy (1984) argued that decision-makers who process information (rather than merely act on it) interact with the evidence, interpreting its meaning, deciding on its relevance 'and hence determine whether and how they will permit the evidence to influence them . . . they influence the evidence before they are influenced by the evidence'. She argued that her study suggested three possibilities as to how new information affected decision-making: that evidence retains its factual authority, but depends on other aspects of knowledge for its normative meaning; that scientific conclusiveness is so difficult to achieve that evidence must rely on ordinary knowledge for validation by practitioners; and that new knowledge (on which decision-making is based) is formed from a synthesis of all sources of knowledge.

Three other matters raised in the literature are noted. First, as the training market has become more competitive there has been a search for a competitive edge by individual training providers, both public and private. One result has been a growth in market research, some of which is public, but much of which is commercial-in-confidence. Monie's study (1995) focussed on the relationship between market research and policy, planning and evaluation in VET. The OTFE manual (Tamblyn 1996) highlights situations in which market research can assist VET providers with their planning and policy development; it also identifies a range of situations for employing market research within VET organisations.

Secondly, the Centre for Educational Research and Innovation (CERI) in Paris has emphasised that knowledge other than pure research is used for decision-making, that this appears to be increasing (for example, inspection, evaluations, indicators), but that the links between this knowledge creation and research (and how they both affect decision-making) are not clearly understood. Of course, non-research knowledge is not merely an alternative to research, since many forms of evidence can combine to influence the decision-making process (OECD 1996).

Thirdly, if research is defined widely to include evaluation there are a range of evaluation studies which can be valuable to decision-makers. Guthrie (1995) emphasised that evaluations can be inwardly or outwardly-focussed and that NCVER is producing materials to assist VET providers in the evaluation process.

2.3 Research settings

Research is carried out in a variety of settings in Australia, some independent from, others closer to decision-makers. The research system includes tertiary educational institutions, independent research institutions (such as Australian Council for Educational Research [ACER]), and the less independent research units which exist within government agencies, together with those who work within them. Research in government may be conducted on an ongoing basis, within a continuing research framework. Research can also be done on an occasional basis, within a ministry, or collaboratively, between ministries, different levels of government and between the public and private sectors. Research can be carried out, too, by ministerial committees, working groups or taskforces, in a more or less structured way, drawing on research personnel from inside and outside government, having a mixture of policy, program and research skills. In some cases it may be difficult to distinguish decision-makers from advisers and researchers, for example, when researchers are recruited to work in ministerial offices. (Selby Smith et al. 1992)

In VET there has been a growth of research over recent years, carried out in a wide variety of settings. Two particular developments are noted: first a growing volume of research on VET issues has been undertaken by private consultancy firms; secondly, there has been a growth in research within VET providers, both public and private.

Whilst all these institutions deliver research outputs, each has its own history and culture, its own pattern of incentives and rewards, which influence the nature of their outputs. However, the literature, when reporting studies related to social science research, tends to concentrate on its conduct in the higher education sector. Very few studies consider social science research in other settings.

The function of the higher education system has long been expressed in terms of the preservation, communication and advancement of knowledge, carried on through teaching and research. Higher education also has cultural as well as instrumental purposes: the recent review of higher education states that 'education has special social and cultural dimensions that contribute to the transmission of knowledge, an informed citizenry and the quality of life' (West 1997). Nevertheless, the committee concluded that:

> *while public funding for university research should be provided for* curiosity driven and strategic research, *funds need to be allocated in the context of a strategic view of Australia's total research effort,* with an emphasis on transferring knowledge, technology and skills to the community *(emphasis in original).*

They recommended that particular attention be given to further enhancing knowledge and skills transfer and improving diffusion mechanisms, so that industry and the wider community are able to benefit better from university research. They also note that personal networks and the sharing of tacit knowledge are 'fundamentally important to knowledge transfer'.

The research environment tends to have a questioning culture and a tendency to elevate basic research over applied research in terms of status and esteem. It is a competitive and personal culture; ideally more focussed on truth than power. Indeed, research can be seen as less technical problem-solving than a process of argument among peers, an attempt to demonstrate that proposition A prevails over proposition B, that is, 'research as a process of debate' (Klein 1990). Research in these settings tends to be strongly oriented to academic disciplines and can undervalue multi-disciplinary work. The achievement of research findings has tended to be accorded a significantly higher priority in academic research settings than their dissemination, development or commercialisation, although this situation is changing somewhat.

The literature says less about research undertaken in other settings, although it appears that there is an increase in research on VET undertaken in private consulting firms (Allen Consulting Group [ACG] 1994; Anderson 1996; Burke et al. 1994; Selby Smith et al. 1996; Selby Smith et al. 1997) and by VET providers (Sefton & Waterhouse 1997; Sefton, Waterhouse & Cooney 1995; Stevenson 1996; Creek & McPherson 1996). It is likely that there is a different pattern of research outputs (for example, less emphasis on teaching compared to research), perhaps a different balance of types of research (more applied, less basic than in universities?), a more variable research culture and a rather different pattern of incentives and rewards (more transparent, more rapid, more closely linked to the immediate needs of decision-makers?): however, these tend to be possible inferences from the literature rather than firmly established by it. There is some evidence of growing overlap between research undertaken in higher education and elsewhere (West 1997; ARC 1992; OECD 1996; Harmsworth 1997), partly because of conscious efforts to strengthen the links between academic research and its impact on policy-makers and practitioners. West (1997) argues that these links should be strengthened further.

Research units in government agencies can bring research and researchers closer to the needs of governmental decision-makers (for example, in terms of topics or timing), act as a transmission mechanism to and from researchers in more academic institutions and in terms of recruiting staff with an interest in both research and decision-making. When government is the end user of the research it is likely to be closely involved in determining the programs which are undertaken and in arranging for the application of the results. However, the Australian Science and Technology Council (ASTEC) (1985) has emphasised that such locations for research may 'introduce inefficiencies associated with short-term, politically inspired changes in mission' and involve very limited interest being shown in matters outside the agency's particular responsibilities (resulting, *inter alia*, in potential problems of horizontal integration and co-ordination).

Against this background there are certain features of the higher education research system, which seem likely to be significant in terms of the use and influence of research in decision-making processes.[23] First, research that is of particular interest to researchers may not necessarily be of particular interest to decision-makers. Conversely, research, which has shortcomings from the perspective of the policy-makers, need not necessarily be 'poor quality' research as assessed by peers. An emphasis on basic research rather than applied research or development may stem from a fundamental value orientation of the research setting. Also, social scientists in universities may tend to pursue lines of investigation that grow out of the core issues in their disciplines and be less interested in issues which are of more immediate relevance to decision-makers.

Secondly, the formulation of problems for study by researchers often does not match decision-makers' definitions of problems: researchers simplify problems while decision-makers consider a wide range of complexity; 'researchers conceptualise problems to fit the methodologies in which they are expert; and much social science research examines the effects of variables (such as socioeconomic status) that decision-makers may find difficult to address.

Thirdly, there may be a disconnection between the specialisation that drives independent research and the broader view that decision-makers want (Brown 1991). Klein (1990) has noted that 'research based on single disciplines may well produce more confident, clear-cut and unambiguous policy diagnoses and prescriptions . . . but for policy makers, . . . they have to take the full complexity of any situation into account'. Indeed, Brown has gone so far as to suggest that researchers' specific knowledge and approaches 'may saddle them with a 'trained incapacity' (Veblen's phrase) to give due weight to variables beyond those viewed as most serviceable within their chosen disciplinary and theoretical frameworks' (Brown 1991; see also Etzioni 1985). Consequently, the effectiveness of research in influencing decision-making tends to vary inversely with the complexity of the task (Brown 1991).

Traditionally, researchers in higher education have been seen as giving higher priority to the conduct of research studies than to the marketing and wider dissemination of the research results. Researchers may not have seen it as in their interest to give this activity a high priority, and they may not have been particularly good at it (Vickers 1995). The recent literature, however, has strongly emphasised the need to change this aspect of the research system if research is to have a greater impact on policy or practice. The dissemination director at the US National Center for Research in VET at the University of California, Berkeley, argues that the underlying premise of the NCVER dissemination strategy is 'that a person's change in behaviour—not the transmission of tangible outcomes *per se*—is the primary goal of the system' (Seidman 1997). He argues that 'the research/development/dissemination/use enterprise must be designed as a system which is holistic, collaborative and principled'. In Australia, ANTARAC stressed dissemination and NREC (1997) states that 'the new structure for research and evaluation presented in this strategy is underpinned by the goal of improving Australia's vocational education and training systems'. Dissemination and the development of improved links with policy-makers, practitioners and other researchers are key priorities for the VET research centres in Australia (see also Bikson et al. 1995).

Finally, researchers outside the public policy process often lack comprehension of the complexities of the public sector decision-making arrangements or of the need to actively 'market' their research findings if they want their work to be taken into account. 'Just about nobody in high office reads social science journals' (Weiss 1986); members of the US House of Representatives spent, on average, eleven minutes a day reading (US House of Representatives Commission on Administrative Review 1977); 'many if not most educational researchers have never worked in the policy arena' (Rist 1996); 'education researchers do not know their policy customers' (Brown 1994-5). The Australian Research Council (ARC 1992) argued that for researchers to work interactively with policy-makers, practitioners and interest groups in education (as they advocate) requires researchers to develop new skills (see also Hocking 1990).

Educational research in Australia (ARC 1992) stated that 'there is good evidence of the valuable impact of Australian educational research' in the provision of knowledge that leads to more successful educational practices; in the development of better understanding of educational processes as they are experienced by practitioners; and in terms of the refinement and alteration of the questions which guide both research and policy development. They cited particular areas of Australian research which have made such contributions to improved policy practice. *No small change* (McDonald et al. 1993) examined the state of VET research in Australia, concluded there were a number of deficiencies and advanced proposals for change. They noted the low level of research in education as a proportion of total expenditure, *a fortiori* in VET, and identified five 'perceived shortcomings': research is fragmented; little fundamental and general issues-based research; the research undertaken is not fully used; the 'big issues' (table 3.5) need much more intensive research within the framework of a national strategy; and the lack of any strong critique of VET policies and programs. More detailed discussion is contained in chapter 6 below. McDonald and Hawke (1995) undertook a study of research priorities in VET in NSW, while McGaw, McDonald and Hawke (1995) considered differences in the impact of various Australian research studies.

Two other federal government reports are ARC (1994) and NBEET (1995). *The strategic role of academic research* (ARC 1994) noted the many pathways between basic research and the realisation of national objectives: some are quite short and direct, but others are long and multiple in nature, with complex cross-linkages. Linkages can occur at both the national and the international level: and to maintain effective international links requires Australian researchers to have international standing, to be able to collaborate with overseas researchers and to participate in international forums. Finally:

> *the realisation of the full potential of the strategic role of basic research in achieving national objectives requires a judicious mix of serendipity through the support of free-ranging curiosity-motivated research and the management of resource allocation for basic research which takes account of international and national imperatives.*

Secondly, the Centre for Research Policy at the University of Wollongong assessed the connections between basic research and national socio-economic objectives (NBEET 1995). They argued that, in considering the linkages between basic research and its application, there is an over-emphasis in the international literature on codified knowledge transfer through formally published scientific papers and patents. The report argued, however, that some of the most informative literature is that which traced the sources of uncodified knowledge, whether it is the general background knowledge provided by university research, or the particular skills and attitudes carried by personnel with a formal research training. They suggest that the structure and linkages of basic research are changing, that the process of academic research is becoming more intimately connected with application and that the informal, tacit methods of knowledge transfer are gaining in importance. Also, their sub-studies adopt the threefold division adopted in the Impact Project: the decision-making system; the research settings; and the linkages between them.

Wiltshire (1993) has characterised the essential characteristics of genuine research and emphasised the dichotomy with policy-making. To Wiltshire the characteristics of modern, Westminster style of government in Australia, which 'apply forcefully to the patterns of governance affecting vocational education' do not diminish but greatly enhance 'the need for research that rests squarely on exposed values for objectivity in its methodology; truth, integrity and fact in its delivery of output'; and relevance to policy, practice, community discussion and further research. He outlines a daunting list of current policy areas where further VET research is required; and supports the development of research in a range of settings. Research priorities have been frequently discussed (for example, see ANTARAC 1994; Butterworth 1994; Lundberg 1993; NCVER 1997; Ramsey 1993).

Hall (1993a) argued that in 'many so-called research papers in vocational education', unsupported generalisations, political statements and working party reports lead to a paper, whose generalisations are 'then quoted as "research evidence" by other authors'. In his view, although political activity, policy statement and policy change are barely affected by research (and themselves barely affect research), practice both affects and is (in varying degrees) affected by research. He notes, too, that some 'research' seems to lead nowhere, 'having no apparent effect on anything'. Hall (1993b) concludes that 'important policy decisions have been taken on non-existent, or flimsy, research evidence' (see also Kirkby 1993 in relation to competency-based training). In discussing an earlier draft of our report a correspondent noted that the impact, or lack of impact, of research on decision-making in VET was frequently asserted, but had rarely been systematically investigated. However, Hall (1993b) did emphasise the strong statistical base for VET research, policy and practice in Australia, with regular reporting by ABS, DEETYA and NCVER, as noted earlier.

2.4 Linkages

The literature on this aspect is sparser than that on decision-making or research. Linkages have a two-fold task: to transmit information from potential users of research within the decision-making system to researchers about the kinds of research that are needed for decision-making; and to transmit to potential users within the decision-making system information about relevant research that has been undertaken within the research system. A defining characteristic of linkages is information flows: because there are many forms, the system of linkages can be conceived of as a web or network (formal or informal, institutionalised or *ad hoc*, long-term or temporary, etc.). Linkages are established because one party wishes to gain access to information (Rymer 1991). However, this presupposes that decision-makers know what they want; that their needs are provided to researchers in ways which the researchers can understand and make operational; and that researchers wish to respond (Selby Smith et al. 1992).

There can be difficulties in creating and maintaining effective networks, or linkages, because of differences in the values and cultures of the settings in which researchers and decision-makers operate. 'Objectivity, value neutrality, and thoroughgoing relativism have proven to be elusive goals for social scientists who aspire to influence policy' (Fox 1990). Lomas (1990) suggests that some researchers have been able to stand out from the subservience of their research to decision-making, and yet critically assess it, because their funding is less dependent upon commissioned work. However, he notes that their work runs the risk of having little impact unless they can obtain a politically important audience. One conclusion must be that unidirectional influence, rather than mutually supportive interaction on an ongoing basis, serves the best interests of neither the research nor the governmental decision-making communities.

'Thin' rather than 'dense' ongoing networks will also act as barriers to the flow of information. A particular problem can be the importance of achieving a critical mass of researchers and stable groups of informed sponsors and research users to form the basis of a strong network (Selby Smith et al. 1992). Managerialist emphasis on cut-backs and mobility in the bureaucracy and major changes in tertiary education have exacerbated the difficulty of developing continuing linkages between policy-makers, practitioners and researchers. On the other hand, there are more encouraging developments such as the establishment of national research centres by ANTA (see, for example, Centre for the Economics of Education and Training [CEET] 1997), the developments initiated by NCVER (NCVER 1997) and the establishment of the Australian VET Research Association. There have also been major problems in maintaining adequate corporate memory.

First, knowing what decision-makers want may not be a simple condition to satisfy. Indeed, if one adopts a compromising, negotiating and satisfying model there may be difficulty in satisfactorily conceptualising the objectives of the organisation compared to the varying objectives of groups and individuals within the organisation. In relation to 'managerial' compared to 'behavioural' theories of administrative behaviour, and the large number of significant actors involved in some VET research studies, it is likely that the outcomes will tend to be of a satisficing rather than maximising kind (Selby Smith et al. 1992).

Secondly, policy issues of prime concern to governmental decision-makers can shift rapidly, so that the concerns which prompted the perceived need for a research study may have been 'resolved, forgotten or drastically altered by the time the study is completed' and available for use.

Thirdly, the needs of the governmental decision-makers need to be provided to the researchers in ways that the latter can understand and operationalise. It is not always, or perhaps even generally, at all easy for potential researchers to know *which* decision-makers want *what* research, or *when*.

Fourthly, if the decision-makers know what they want and the potential researchers become aware of what is required are they likely to respond? It is the incentives and rewards within the research system to which the researchers will particularly respond—costs, benefits and alternatives will all be relevant and may vary systematically between different researchers and different research settings. Apart from the possibility of intrinsic interest in the research topic itself, investment in the skills and knowledge required to undertake good research into particular VET research areas will be more likely if it involves a continuing series of research projects in the area rather than a one-off study (for example, see CEET, 1997).

More than a decade ago, the OECD undertook valuable studies in this area (OECD 1979; OECD 1980). A more recent publication (OECD 1991) emphasised the importance of a continuing science and technology watch and argued that 'the innovation process [depends] as much on effective interaction between the various actors as on the content of scientific discoveries and technical progress'. In the field of educational research, issues concerned with strengthening the links between research, policy and practice have been discussed in two recent publications, *Education research and reform: An international perspective* (OECD 1994) and *Educational research and development: Trends, issues and challenges* (OECD 1995).

In its latest publication (OECD 1996) the Centre for Educational Research and Innovation (CERI) states that:

> *it is rash to implement educational change without a good knowledge of what is likely to be effective. Yet in practice, educational decisions seem in many cases to be taken rather unsystematically, with no consistent reference to available knowledge bases.*

One reason that in CERI's view is becoming increasingly apparent is that 'the forms of knowledge that are relevant to education, as well as the processes by which decisions are taken, are diverse as well as complex. Not all of them are reducible to formulation in scientific terms'.

White et al. (1988; see also Scott 1991) considered the dissemination and utilisation of UK research and development in vocational education and training. They argued that it is important to clarify precisely what different players' criteria are for successful dissemination and utilisation of R&D; that the indicators of 'successful' R&D vary depending on the position and needs of the person or organisation in relation to each specific project; and that since dissemination must be defined in terms of what is useful to recipients (and there are different groups of potential recipients whose needs may well differ) 'it is necessary to consider dissemination in terms of a system of communication capable of meeting a variety of needs'. White suggested that consideration be given to the perspective of end users i.e. teachers and trainers, providers and policy-makers. In relation to teachers and trainers White suggests research information needs to be easily accessible and readily updateable to help them learn how to effectively implement major new developments and assess their relevance; more rapid transfer of new ideas from R&D to the provision of training and teacher updating; and improved access to data on the likely quality of that knowledge. In relation to providers White argues that major developments in VET should be communicated in such a way as to clarify their implications for planning, resources and management; that there be two-way communication to ensure these implications are considered as the R&D work is carried out; that providers are involved in assessing the value of such projects; that up-to-date labour market information is more easily available; and that research into effective management be communicated to higher levels (White, chapter 3, reported in Scott 1991). White also recommends specific tactics for improving R&D effectiveness, including how the result of research projects could be included in teacher training or updating.

Huberman (1990) has argued that 'intensified contacts in the life of a research project can result not only in applications of the main findings, but also in the establishment of multiple areas of collaboration between the two parties that transcend the impact of a single study'. His study is of particular interest given Huberman's contribution to this field of knowledge, the rigour of his research study and its focus on a national research program in vocational education and training. Huberman identifies three important processes in the user-researcher contacts. First, interim feedback helps to educate practitioners to the drift and impact of the emerging data, giving them time to assimilate the findings and accommodate to their local implications. Through these interactions, over a period of one to two years, the practitioners come gradually to master the study conceptually and researchers come to see how practitioners are construing the import of the data and thus, see how to rectify eventual misrepresentations. Secondly, interactions over time, between parties who, up to then, had had relatively little to do with one another, created the interpersonal climate in which substantive exchanges could occur with minimal friction or defensiveness (the 'taming factor' where Huberman highlighted the importance of informal, off-task encounters). Finally, the contacts made during the study, in order to discuss specifically the dissemination of findings to different target public's, obliged both sides to think early on and more operationally about the meaning of the findings in the local context. Also, discussing the modalities of disseminating the study created the requisite conditions for follow-through; and created the classic conditions for attitude change or attitude strengthening.

Huberman's summary of the responses from the seven sets of mutual engagement showed the close mesh between the more substantive findings (e.g. feedback) and the more interpersonal discussions of researcher-practitioner contacts (e.g. personal relationships). In fact, it was not always possible to determine from the fine-grained qualitative analyses whether the outcomes were strengthening the links, or whether the links were helping to cement the findings in the practitioner setting: 'the clearest signs point to reciprocal effects'. Stronger linkages were directly related to strength of outcomes. Also, it was found that the dissemination efforts could lead later on to increased and more varied collaboration between research units and practitioner settings, so that research findings could flow into practitioner settings and craft knowledge could move into research settings as a natural function of the ongoing relationships between both parties, feeding more or less automatically into their customary transactions.[26] Vickers considered how the impact of research might be increased (Vickers 1995) and concluded that 'effective training reform may demand more inclusion—more empowerment of the practitioners, because they are the agents of change at the local level'.

The importance of intermediaries in bridging the gap between researchers, policy makers and practitioners is stressed in OECD (1996). Similarly, a recent UK study of the payback from research projects identified 'policy-maker involvement and brokerage as key factors in enhancing utilisations' (Buxton & Hanney 1994). The entrepreneur is a two-way intermediary, acting on behalf of the policy community to ensure that research is appropriately designed, as well as on behalf of researchers to make it properly understood. 'Such entrepreneurs can potentially mediate knowledge in all directions along the "knowledge triangle"—of knowledge producers, decision-makers and practitioners' (OECD 1994).

CERI also noted the importance of disseminating knowledge, including research knowledge for improved decision-making in education, across national frontiers as well as within them (OECD 1996). Such activity has a long history, has tended to increase in recent decades (but probably less in VET than in higher or school education) and may be of particular importance for small countries such as Australia. Australian researchers, Australian policy-makers and Australian practitioners interact with overseas colleagues as well as with each other. We gain from overseas discussion, thinking and practice, but we also contribute to it. Public opinion can be affected too, directly and indirectly, by overseas developments in knowledge or practice. The resulting interactions add a further level of complexity to the web of linkages (ARC 1992; Rizvi 1997; Stern 1996).

Educational research in Australia (ARC 1992) noted that submissions to the review had clearly expressed a desire for better links between researchers, policy-makers and practitioners; but that these aspirations were based on hope for improved linkages in the future rather than on past performance. They suggested a number of remedies, including more state-of-the-art reviews, publication of general (and specific) directories and more efforts to disseminate research. Indeed, they stated that their various proposals had 'a common purpose: to force educational researchers, practitioners and policy-makers to engage more directly in dialogue about the desirable shape of Australian education, and the role that research can play in securing that future'.

NCVER is making conscious efforts to further improve the dissemination of VET research to policy-makers, practitioners and other researchers; and to communicate the needs of policy-makers and practitioners to researchers (i.e. to foster the web of linkages). 'In the past the outcomes of research and education projects have often not been readily available to policy-makers, practitioners and other important stakeholder groups in forms which were useful to them' (NCVER 1997). As part of the *National research and evaluation strategy for VET in Australia 1997-2000*, NCVER is proposing a range of dissemination methods, both formal and informal: publishing research reports, journal articles and disseminating research information in magazines and newsletters; running face-to-face activities such as conferences or workshops; utilising databases such as VOCED; developing networks of stakeholder and interest groups; using publications to meet the needs of particular 'markets'; making improved use of technology; using the World Wide Web; and establishing a VET sector research and evaluation hotline.[27]

At the State level Harmsworth (1997) has recognised the importance of the linkages between policy-makers and researchers and has argued for fostering direct dialogue, including through clearer identification of policy priorities, formulation of research questions, a tighter focus by researchers on the policy implications of their research and the combination of researcher, policy-maker and industry voices on reference bodies. He noted some dangers, however, including that 'career progression as a researcher is (generally) dependent on maintaining critical independence' (see also Butterworth 1994; and Ramsay 1993). In order to improve further the linkages between researchers and policy-makers, Harmsworth proposed: wide dissemination and debate; research forums to be based on key policy issues rather than on research projects; greater emphasis on stocktakes of existing research for policy implications; consideration of the needs of multiple target audiences; and greater emphasis on dissemination in non-research publications. Up to a quarter of NREC's budget is available for such approaches. OTFE has also commissioned an investigation on how best recent research can contribute to VET policy deliberations within the Victorian State training system (Billett 1997).

2.5 Findings from the literature review

In the tender accepted by the funding body the research team said that a literature review would be one of the five complementary approaches adopted to investigate the research question. The literature review confirms the untenable nature of any 'Simple Impact Model' (Anderson & Biddle 1991); the complexity of the relationship between research and decision-making; and the value of examining the relationship in terms of decision-making, research settings and linkages.

The literature influenced the research team's thinking on 'impact' issues in the specific context of VET in a number of important respects:

On decision-making

- There are a number of relevant literatures (e.g. political science, public choice, social psychology, and sociology). Where they focus on decision-making they tend to focus on public policy. Much less attention is paid to decision-making at the practitioner level, whether in public or private organisations.
- Decision-making is complex. There are many approaches to its analysis, but all of them highlight the complex interactions between the wide range of determining elements.
- The use of research in decision-making is mediated through the particular interactions between the elements that impact on decision-making.
- The literature tends to concentrate on the information role of research; less attention is given to the other outputs from the research system and their potential roles in decision-making.
- The decision-making setting in VET can be characterised as complex, complicated, dynamic and contested.

On research

- The literature concentres on research in universities. Relatively little attention has been given to the growth of research elsewhere, particularly at provider level and in private consultancy firms.
- The values and cultures, and the pattern of incentives to which they respond, tend to differ systematically between research (particularly in the universities) and decision-making. These differences reflect, in part, that universities have social purposes in addition to the support of better decision-making.
- Nevertheless researchers, especially those in higher education, tend to be unfamiliar with the complexities of the policy process, which tends to limit the use of their research by decision-makers (e.g. because of choice of research projects, timeliness, format of reports or the approach to recommendations for use).
- Research is of many kinds, which impact on decision-making in different ways. For example, different types of research may be appropriate at different stages of the policy cycle, in different settings or for different stakeholders.
- The question of whether the quality of research affects its use in decision-making is raised in the literature, but the conclusion is not unambiguous. The judgement of quality is subjective; and the criteria applied by researchers and decision-makers can differ. The prior beliefs of the decision-makers and the context in which they are operating can lead to 'good quality' research not being used, while poorer quality research is used. Research may be judged according to *who* did it rather than what was done.
- The literature indicates that there is an increase in VET research, including at the practitioner level, that VET research is not wholly conducted in higher education, and that the research that is undertaken is widely seen as not having as much impact as it might.

On linkages

- The literature has tended to focus on linkages involving the flow of information. More recently, greater recognition has been given to the movement of people as an important linkage between research and decision-making.
- The flow of information between the research settings and decision-making is likely to have greater impact if linkages occur throughout the research project rather than solely at the end. The development of such linkages facilitates ongoing interaction and increases the chance of research being used; it also assists researchers to understand better the needs of decision-makers.
- Where research occurs in decision-making settings (e.g. research in government agencies or at the practitioner level) the linkages between research and decision-making are closer and there is a greater likelihood of external research also being taken into account for decision-making.

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Footnotes

[23] A general discussion of decision-making in theory and practice from an Australian perspective is contained in Corbett (1992); see also Emy and Hughes (1991). A commentary on the reality of policy-making in Australia in the VET context is given by Wiltshire (1993).

[24] The authors use the same framework to analyse the influence of research on decision-making with respect to the development of User Choice in a case study for the Impact Project.

[25] Where research is contracted by users often the methodology is specified as well as the problems to be investigated. This matter was raised at the symposium.

[26] Huberman suggests that about 12 per cent of the total project time needs to be budgeted at the outset (i.e. built into the study timeline) and that 'the effects of single articles, vulgarised monographs and one-shot workshops are often problematic'.

[27] Keen at the University of NSW has also been researching the linkages between research policy and practice in Australian education, but her working drafts are not yet available for citation.

Chapter 3

Report of the symposium

3.1 Introduction

AS NOTED IN chapter 1 of this report, in its submission to the funding body the research team stated that it would employ five complementary approaches when carrying out the Impact Project. One of these approaches was to organise a symposium. Invited participants were those experienced and interested in the questions posed by the research study including some that had been involved previously in impact studies. It was not possible to invite representatives from all of the Commonwealth, State and Territory training authorities to be present, even though it is recognised that there are significant differences in their history, culture and administrative arrangements. On the other hand, some participants have occupied a number of roles relevant to the Impact Project during their careers, for example, as policy-makers and later as researchers, or conversely.

This chapter reports on the symposium held in Melbourne on 19-20 February, 1997. The chapter is organised in six sections of which this introduction is the first. The symposium objectives, structure and broad outcomes are described briefly in sections 2, 3 and 4. Section 5 contains the session summaries. The summaries draw out the issues relevant to the Impact Project: they are not edited texts. Finally, the particular matters where the research team's thinking has been advanced are brought together in section 6.

3.2 Symposium objectives

The overall purpose of the symposium was to identify issues that could assist in understanding the relationships between research and VET decision-making. Understanding these relationships is necessary for '[reviewing] the evidence for and where possible [evaluating] the extent of influence of research in vocational education and training', the research question. Participants were asked primarily to address this purpose.

It was also recognised that the broad parameters of the research study needed to be established early. Key terms required careful definition; in particular: 'research'; the three areas of decision-making and action, which were the focus of the funding body's attention; and 'impact' of research. The research study needed to be bounded: geographically; with regard to the research time frame; and the constituents of VET research. Agreement was also required on the overall perspective of the project: that is, whether the relationships between research, and decision-making and action were to be considered chiefly from the perspective of research or from the decision-making viewpoint. The research team had addressed these matters prior to the symposium and our views were set out in a paper distributed to all participants before the meeting. Participants were also asked to comment on this paper in the course of the symposium. (The paper is reproduced as appendix 1.)

3.3 Symposium structure

The structure of the symposium was guided by the overall purpose of the Impact Project set down by the funding body. Sessions were set aside to consider the impact of research from users' perspectives in each of the designated areas: at the State and Territory and national levels in VET policy and planning; at the provider level, both in relation to policy and planning and for improved practice and performance; and to facilitate interactions between the wider economic, political and societal systems and VET (that is, community relations).

Perspectives were also sought from VET researchers working in a range of research settings, including in VET research institutions, as private consultants, as expert advisers and in the formal inquiry process.

Similar studies have been undertaken in other areas of public policy, for example, in health and in other areas of education. Researchers in these areas reported on their findings. Presenters from the United States and New Zealand added an international perspective.

The symposium program, including the list of presenters is given in appendix 2.

3.4 Symposium outcomes

In the event, the symposium proved to be more fruitful than anticipated. Not only were the issues that could assist in understanding the relationships between research and VET decision-making identified: there were three additional outcomes.

First, the symposium process was interactive, dynamic and cumulative: one of mutual learning for those prepared to put their cognitive maps in jeopardy. This learning is reflected in our reporting of the symposium sessions: while the structure posed by the research question is maintained, a number of issues are revisited as additional insights were offered.

Secondly, it proved possible to develop from the symposium discussions a set of responses to the research question. A number of participants offered considered views and material relevant to 'the evidence for and . . . the extent of influence of research' on decision-making in VET. Participants also provided views and evidence that enabled the research team to draw further conclusions relevant to the research question.

Thirdly, the symposium discussions provided insights beyond the specific questions raised by the funding body. In particular, these were related to ways of improving the relationships between research and VET decision-making.

These outcomes are reported in section 6.

3.5 Session summaries

The intent of the summaries is to draw out relevant issues that could assist our understanding of the relationships between research and decision-making. The summaries are not edited texts. Nevertheless, some arguments are presented at length and a number of comments are included verbatim where they contribute to our better understanding.

Comments generally are not attributed: the symposium operated under the 'Chatham House rules' convention. The session summaries generally are presented in chronological order. However, in a limited number of cases arguments have been brought together across sessions where there are benefits from consolidation.

3.5.1 Session 1: Use of research at State and Territory and national levels in VET policy and planning—users' perspectives

The first session crystallised five main issues that need to be addressed in the Impact Project. Much of the discussion in subsequent sessions tended to coalesce around these issues or extended our understanding of them.

First, the particular features of the VET decision-making environment need to be understood. What characteristics distinguish the environment in which VET decision-making is carried out? Does this environment foster or inhibit the use of research?

The description of the VET decision-making environment given in the users' presentations found resonance with the research team's view: that public policy-making generally is the outcome of interactions between the formal policy process, the distribution of power among the stakeholders, and the assumptive worlds of the key players; and that how these interactions are played out can influence the impact of research overall. It was said that VET is 'a highly complex environment'; that there are 'substantial government structures' and 'a myriad of co-ordination arrangements and committees that make life anything but plain'. Industry's involvement is said to add to this complexity. VET is also seen as a contested policy domain: between Commonwealth and State and Territory governments; between public institutions and private providers; and between unions and employers.

Policy-making in particular is further complicated by the 'rate of change'. The rate of change was stated to be unprecedented for the sector, implying that policy responses often need to be developed in very short time frames. The time frames of research were seen to outlast those of policy-making so that research results were often 'too late'.

Comments made in a later session, describing the culture, values and beliefs of key groups in the VET sector are pertinent here. A presenter with VET policy experience described VET policy-makers as:

> *a small clique . . . [who] tend to think training is the centre of the universe; a bit anti-intellectual . . . a bit insecure about itself compared with universities . . . rather than being secure in its valuable role for many Australians . . . often not interested in hearing bad news . . . tend to believe their own rhetoric . . . looking for solutions not policy or research . . . they want answers not more research questions.*

Another presenter commented that VET was a 'self-referential' group.

A number of comments were made about VET decision-makers' attitudes to research, in particular. Research was said 'not [to be] given a high priority'; there is 'no research culture'; VET policy-makers 'are not very research literate . . . do not understand the research language'. There would seem to be expectations that research would provide simple answers ('without caveats') about what can be complex social phenomena. Again in a later session the comment was made that there was 'considerable scepticism' in the VET community about the rapid growth in interest in VET research by university researchers: that the researchers were motivated by the 'lucre'. This statement, by a VET policy-maker, was made without reference to the larger forces at play in relation to the national research effort across all fields; that is, the desire to capture a greater level of social and economic benefits from the public resources invested in research; that in this context, funding is the major mechanism to direct the national research effort towards areas assigned a higher priority, and that researchers were responding to those incentives.

A second set of issues to emerge in this session related to the research team's conceptualisation of the outputs of the research system (described in chapter 1). As noted there, the literature on research impact focusses particularly on research as 'new or superior information', but some user participants had difficulty with this conception. It was proposed rather that research be seen as 'technical expertise', 'judgement', 'interpretation', and 'possible solutions'.

We would argue, however, that new and superior information may incorporate, rather than be distinguished from, these elements. There are a broad range of research activities that can provide new and superior information including: work with a short-term compared to long-term focus; qualitative compared to quantitative work; work which is researcher-initiated compared to initiated by decision-makers; or research focussing on a specific issue (whether of current interest to policy-makers or not) rather than more exploratory or of the nature of a general inquiry; research using different disciplinary approaches; and conducted in different settings (e.g. within government, in tertiary education institutions, by professional and industrial bodies, by community organisations or by private consultants).

It was notable that there was no clear response from users to our broader conceptualisation of research outputs as including trained personnel and research skills and attitudes. In our view these are potentially major longer-term contributions of the research system to improved decision-making. These contributions bring to the decision-making process an awareness of relevant theories and evidence; an ability to interpret, adopt and adapt research results gathered from a wide range of sources; a disposition to consider that evidence is relevant in developing policy, in evaluating practice and in modifying performance; and a determination to actively seek it out.[28]

A third set of issues relates to the need to understand the characteristics of the research system. Who are the researchers? Where does research take place? What are the values and preoccupations and other key descriptions of the research system?

These issues are taken up at greater length in a later session. In this session, perhaps not unexpectedly, users of research highlighted a number of shortcomings of the research system and of researchers which, in their view, limited the use of research in policy-making. These shortcomings included: disjunctures between what researchers are researching and what planners and policy-makers are working on; 'the atomised nature of research in VET'; the tendency of researchers to surround their conclusions 'with caveats a mile long'; the unavailability of much research when required for policy-making; and the lack of user-friendliness in the presentation of many research reports. However, there was much less awareness on the part of users as to how actions in their domains might contribute to or limit the use of research, or of the broader roles of research in society.

It was noted that the stereotype of the lone researcher sequestered in the academy and working to a personal agenda appears still to be widely held, even though in recent years a significant amount of research on VET issues has been provided in response to briefs developed by VET authorities, and often by private consultants. (Outdated) stereotypes may limit perceptions as to what constitutes research and its impact.

Participants did recognise that research and policy-makers have different roles, that the characteristics of researchers can differ systematically from those of decision-makers and that many researchers may not be adept at developing recommendations and disseminating research results, or may not fully appreciate the constraints that face policy-makers. It was suggested in the discussion that some specialisation of functions may be desirable: broadening demands on researchers could attenuate their specialised research skills.

A fourth set of issues concerns the function of research in policy-making. What reasonably is the role of research in decision-making? When should 'impact' be judged? How might it be judged and by whom?

The user presenters and some discussants voiced expectations for research which would seem overly ambitious, for example, that policy should be 'research-driven' which contrasts with other views, that researchers should have 'suitably modest' expectations about research's contribution to policy-making.

Some users acknowledged that the extent of the impact of research on decision-making is not easily determined even in some qualitative way, and that impact may become 'fully apparent' only after a significant lapse of time. On the other hand, at times there appeared to be an inference that research had little or no impact on policy-making, which was at odds with the known reality of the presenters' current work preoccupations. Of course, a limited view as to what constitutes research and from where ideas initially are sourced may bear on this judgement.

Some of the presenters in later sessions have been policy-makers at earlier stages in their careers, or have been intimately involved in governmental decision-making processes, as members of committees of enquiry or as advisers in ministerial offices. These participants also offered comments on the processes by which decisions are made and the role of research. Their comments are incorporated in the report of those sessions.

The final issue that needs to be addressed and which was suggested in the first session concerns the importance of the linkages between the research and decision-making systems.

Linkages are the means of facilitating information flows between the two parties: they transmit information from potential users of research within the decision-making system to researchers about the kinds of research that are needed for decision-making. They also transmit to potential users information about relevant research that is being undertaken (or which could be undertaken or accessed). A user argued that the linkages between the research and decision-making systems in VET are 'weak', 'a rickety bridge', that 'the bridge isn't anywhere near as strong as it should be'.

Related to the issue of linkages is the significance of dissemination activities. The role of dissemination, spreading research ideas and findings including to users, was given emphasis in a number of symposium sessions.

Dissemination is one form of linkage, albeit that which is given particular emphasis in the VET area. This emphasis may reflect that the importance of linkages is not widely understood; or the absence of an otherwise strong web of linkages (or both). Arguably, dissemination activities are more easily identifiable, for example when considered in relation to particular research projects. Participants noted with approval that funding bodies are providing additional resources in support of dissemination activities. Dissemination is costly: how effective are dissemination activities in achieving the greater use of research results in the absence of a strong network of linkages?

Of course, to focus on dissemination rather than the broader concept of linkages has its political aspects. Some VET policy-makers and funders saw dissemination as the final phase in the conduct of a research project. As such, dissemination becomes the responsibility of the researchers. On the other hand, to focus on linkages is to be concerned with facilitating the two-way flow of information. Building linkages is a shared responsibility between users and researchers.

In the discussion that followed the presentation of papers, attention was drawn to two other matters related to linkages. One was the possible use of research 'brokers'. It was argued there would always be significant differences in attitudes, cultures and incentives between the research and decision-making communities. There was argued to be a role for brokers to facilitate the exchange of research information between the producers of research and potential users.

The second matter relates to the role that can be played by units within government agencies that act *inter alia* to link research findings to decision-making processes. It was argued that the increasing tendency to outsource VET research does not remove the need to retain an integrative, translating and co-ordinating function within agencies. These functions have suffered cutbacks in a number of instances in the course of public sector restructuring, effectively reducing the links between research results and decision-making and between researchers and decision-makers.

3.5.2 Session 2: Use of research by VET providers for improved practice and performance, and policy and planning at provider level

The discussion in this second session developed around three main issues:

- to what extent may research contribute new information relating to the 'major current influences' facing providers; or do providers become most interested in these issues 'at a point where research inputs have already been translated by whatever complex process, into policy and practice'
- where research can make a significant contribution potentially to the knowledge and understanding of the issues facing VET providers, is such research being undertaken? Do the agendas of the research community mirror providers' needs?
- where research is being undertaken, is it being used by providers? What factors contribute to or inhibit use?

The major issues facing VET providers were argued to be:

> *as a fundamental starting point. . . that VET providers operate in a fiercely competitive market: internationally, between States in Australia, between providers locally and between the public and private sector providers. They not only want to improve their practice and performance but they want to be seen to be doing so by both their customers and by government, since this is a marketing edge and/or a means to attract additional resources in a climate where they are fighting for survival.*

- State and national policy directions, including directions indicated by State and national ITBs and ITABs
- 'best practice' examples, including performance indicators, target bench-marks and budget guidelines
- locally generated and locally specific research often having 'commercial in confidence' status

It was suggested that individual providers generally 'react' to policy changes; however, research may assist them in adjusting to these changes. More often, research is seen to have the potential to make a contribution to improved practice and performance. A number of participants noted nevertheless that the research culture within VET provider organisations generally is weak (although it is now strengthening).

At the provider level there are a range of audiences (concerned with strategy, management and VET delivery) and each has different responsibilities and interests and potentially different research needs. It was said that these needs generally are not being met by the research system; that is, the research was not being undertaken: 'similar concerns are being voiced by practitioners now as were being expressed some four or five years ago'. On the other hand, some of the specific needs of individual training providers are now being met by research undertaken in-house or on a collaborative basis, including with outside research organisations. Much of this research is not widely known, sometimes because it is 'commercial-in-confidence'.

Where research is being used, it is said to be having an influence on decision-making at the provider level. Participants indicated that research, both that sourced externally and that being undertaken in-house, is being used to respond to external pressures, for example, to respond better to shifts in market demand in an increasingly competitive training market; or to respond better to policy and budgetary imperatives, including new methods of resource allocation; or to meet the particular training needs of special groups, including Aboriginal and Torres Strait Islanders. In-house research both reflects and contributes to the development of 'learning' organisations—organisations which have a culture of continuous adaptation and change.

At the same time, a number of factors would seem to limit the value of (external) VET research to providers. There were said to be problems of 'currency': constant changes in policy and direction have made much recent research actually or apparently of little value; frequently, research findings have only been formulated or disseminated after the policy or practice they sought to inform has been abandoned or significantly modified. Much research has been inaccessible to practitioners: the research has been reported in a language and form which is not meaningful to most practitioners; and research findings are often published in places and in ways which are not normally accessed by them. In-house research appears less likely to suffer from these drawbacks; it may also make it easier to interface with the broader research system.

There can also be an issue of credibility in specific instances: 'too much research has been uncritically promotional, rather than critically evaluative'. It was argued that practitioners want facts, not fashion, to be the basis of policy and of practice.

To date, the majority of Australian research on learning and assessment in the workplace has been simply descriptive of other people's practice; practitioners have not found in such research useful analysis of why some approaches work well under some circumstances, and others do not.

Classification of research by type of activity

There was one other matter, related to the research team's conceptualisation of 'research' raised in this session, but which had wider relevance than this session alone. It was suggested that research be disaggregated by type of activity, better to focus on the various motivations for research activity, and by implication, to develop a more sophisticated understanding of 'use' and 'impact'.

Research is not homogeneous and undifferentiable. The ABS report *Australian standard research classification* (1993) defines four types of research activity. They are:

- pure basic research: 'Experimental and theoretical work undertaken to acquire new knowledge without looking for long-term benefits other than the advancement of knowledge'
- strategic basic research: 'Experimental and theoretical work undertaken to acquire new knowledge directed into specific broad areas in the expectation of useful discoveries. It provides the broad base of knowledge necessary for the solution of recognised practical problems'
- applied research: 'Original work undertaken primarily to acquire new knowledge with a specific application in view. It is undertaken either to determine possible uses for the findings of basic research or to determine new ways of achieving some specific and predetermined objectives'
- experimental development: 'Systematic work, using existing knowledge gained from research or practical experience, that is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed'

In principle, research in any one field, for example in VET, can be distributed among all four types of activity, according to why that research was carried out; that is, the motivation for undertaking the research.[29]

The significance of the ABS classification for the Impact Project is threefold. First, one would expect different *levels* of use and influence for the different types of research. For example, levels of use and influence for research work which is very specific in focus and is intended to address a clearly defined, current problem possibly posed by the user would be expected to be higher and thought to be more 'relevant', particularly in the short term, than say, research which is intended to expand policy-makers' broad understanding of some of the parameters of the research system, e.g. a conceptualisation of the training market.

Secondly, one might expect very different *patterns* of use and influence as between the types of research in the three areas of VET decision-making. Policy-makers at the national and State levels would be expected to find more value in strategic research and less in development activities; but the reverse might be expected to be the case for VET providers. This is because policy-makers tend to be less concerned with the detail of implementation and more concerned with strategic questions, whereas the reverse would be expected to be true for training providers.

Thirdly, *perceptions* of use and influence may vary among types of research because the use of some types of research is more clearly visible than the use of other types of research. Thus, one participant who had taken a series of soundings among a group of his acquaintances interested in and knowledgeable about training issues noted that research for ITABs, especially that on competency standards, was 'significant' and had 'positive' outcomes, as did research for major government inquiries. But theoretical and academic work funded by ANTARAC was seen 'not to contribute very much to anything'. The source of the ideas that determined the parameters in which such industry advisory bodies were operating were not known (and often they did not need to know). Research use, particularly its cumulative use, may be significant but not visible to a particular group, or it may not be used at all by any group.

Of course, the conceptual skills, the technologies, the resources of research, the research skills and attitudes developed by the research system, can be used in all decision-making settings.

3.5.3 Sessions 3 & 4: Research and researchers' perspectives[30]

These sessions had two main foci, aligned with the symposium's objectives spelled out in section 3.2. First, participants actively engaged in consideration of the research question through addressing definitional and conceptual issues. Secondly, these participants drew on their own experiences as researchers, seeking to influence decision-making in VET and in other sectors of the education system through their research work, to provide insights into the factors that contribute to or limit the use of research in decision-making. Taken together, the sessions' main contribution was to confirm and re-iterate the view that largely, the 'one-to-one-notion (of research impact on decision-making) has been scotched'. Rather, the perspectives that were emphasised were:

- research activities as knowledge accumulation
- research contributes to the creation of a climate of opinion, provides a set of ideas; research as a resource
- knowledge in decision-making settings as accumulating and changing over time
- policy-making as a highly complex set of activities taking different forms in different settings and using research in very different ways
- at particular times, certain ideas are in 'good currency' and others are not or are no longer
- linkages between researchers and decision-makers are based best on the sustained mutual esteem and understanding of the potential contribution of each and emphasise collaboration [rather than the narrower focus on dissemination as a 'remote audience for research with whom effective communication must be established']

- within these dynamics, a recognition that 'research', 'decision-making', 'use', 'knowledge' and 'information' are complex phenomena

Together, these perspectives challenge the linearity implied in ANTARAC's research question: the evidence for and the extent of the influence of research on decision-making in VET.

Definitional and conceptual issues

The focus on definitional and conceptual issues was premised on the view that to understand 'impact' depended in the first instance on a sound conceptual mapping of each of the key terms, based at least in part on earlier work reported in the literature. Of course, to map implies to disaggregate the key variables in a way that reveals their differentiable elements (for example, as for research discussed above). Importantly, this approach indicates that the research question is complex rather than simple as the initial specification and some earlier discussion implied. Each of the key concepts are considered in turn.

Research: It was proposed in this session that the term 'professional social inquiry' (Lindblom & Cohen 1979) may be preferable to the term 'research' for the purposes of this project. Professional social inquiry includes knowledge sourced from research and evaluation, employs 'research methodology' and is carried out by professionals with 'an aspiration of "truth"'. No comparisons were made with the OECD/ABS definition, but professional social inquiry would seem less restrictive in terms of its 'originality' and 'investigative' nature.

Professional social inquiry has a number of dimensions. From the perspective of the nature of the inquiry being undertaken five types are identified:

- scientific knowledge creation: basic and applied research traditionally undertaken in universities and dedicated scientific agencies. Development of theory is a goal of the work
- investigator controlled applied research: the researcher believes that the work has practical implications. There is encouragement for users to collaborate
- investigator-user equality: initiation of the problem can come from the researcher and user together or the user. Either group can question the problem but after the problem is refined, the researcher is responsible for the investigation
- user-oriented action research: a user with a (local) problem asks for assistance from a researcher. A major source of advice is the expertise and past experience of the researcher
- consultancy advice: a user requests help from a non-specialist consultant in the area of concern. The non-specialist may be in the field of management or accounting or organisational design. The consultant gets 'up to speed' rapidly in the area of concern

While the research team continues to use the term 'research' in the Impact Project this typology underlines the point raised in the previous session, that the nature of the inquiry is a determinant of the use of the research.

Research accumulation: To this point in the symposium 'research' had been used implicitly to refer to single studies. It was proposed however, that the focus be redirected to view the research enterprise as accumulative. As one presenter noted, 'much [research] does not stand on its own as a piece of work . . . [but it may add to] the accumulating body of knowledge . . . and with a whole lot of others, make a big contribution'.

This presenter argued that to conceptualise research as accumulative has implications for the way research impact is viewed. Rather than examine the impact of a particular research study, it would seem more fruitful to take an idea ('an idea in good currency') and ask: from where did it come? 'Were its sources rooted in research activity and research findings or in other sources?' Results of 'trace-back' studies generally tend to be 'more encouraging for researchers than the forward-looking [studies]'.

It was also noted that work which has examined the source of science and engineering innovations in particular has brought into prominence the value of basic research studies. These findings have implications for the balance of research funding by type of research: in the longer term to support only applied research activities may weaken the knowledge base from which more practical applications are ultimately derived. Can a parallel be drawn for research on what has now become VET issues?

The research-as-a-set-of-ideas perspective was taken up by a second presenter who argued similarly that research can create a 'climate of feeling or understanding', particularly over the longer term. From this perspective impact can be very significant. The presenter gave as an example the move in Australia away from 'social democratic' to more 'rationalist activist' approaches by governments based on economic approaches, an outcome of the coupling of a research environment to a government policy environment. Changes in policy and practice in a number of policy areas (not just VET) can be traced to the rise of economic theories of institutions and the development of rational actor views in the academy. That is, economic models have become the 'ideas in good currency': the research ideas have moved into the minds of decision-makers and have changed both policy and practice (including in VET).

Participants noted that to view research as ideas highlights the value of an ongoing research capacity from where decision-makers can draw ideas and advice on a continuing basis.

Disciplinary perspectives: A perspective not addressed hitherto was the value of sponsoring research in VET that has different disciplinary perspectives. It was argued that different disciplines pursue a range of quite specific research agendas and view issues differently. The disciplines approach public policy, in particular, in a range of ways and these different approaches shape the kinds of questions they ask, the techniques they use, the kinds of answers that emerge and the audiences with whom they regularly interact. Different disciplinary approaches therefore can provide a wide range of 'useful resources' and different perspectives on VET issues.

The question was asked whether current funding approaches support this diversity and if they do not, does this lack of support limit the research system's potential to contribute to VET?

Policy decision-making: Policy decision-making processes may also be differentiated. There are different types of decision-making processes, and it was argued they can incorporate research very differently. Four types of policy decision-making were distinguished:

- pragmatic policy decision-making characterised by: no systematic consultation or research; and stakeholder views and selected research used in an *ad hoc* way to support a particular stance
- policy decisions based on consultations, but where: systematic consultation is usually limited to invited participants/major stakeholders; submissions usually are oral, not formal written submissions; and where there is no research or limited *ad hoc* use of research
- policy decisions based on green/white paper process incorporating: systematic consultations; opportunity for formal public submissions with no restrictions on who can put submissions; close ministerial involvement; ministerial preparation of green paper/discussion paper/consultation paper; opportunity for further public comment on green paper; and subsequent government release of new policy in official white paper. There tends to be a more systematic use of research to support policy approaches, although the use of research tends still to be selective
- policy decisions based on independent public inquiry, where an external and expert committee is formed to undertake the inquiry: consultations are open and wide; the public is invited to make formal submissions in addition to major stakeholders; there is systematic investigation of the body of relevant research and new research may be commissioned; and relevant minister(s) remain at arm's length from the inquiry process. Independent inquiries' recommendations are made to the government in the form of a published report, and the government considers, indeed sometimes invites, public reaction to the report before releasing its official policy response (of course, the recommendations may be ignored, limiting ultimately the influence of research. On the other hand, sometimes the reports and their recommendations are used later or in different contexts)

It was said that both extensive full public consultation and systematic use of research have played a relatively small role in VET policy decisions. Most VET policy decisions have been arrived at through the pragmatic, negotiated political approach to policy-making, reflecting the complex and complicated political context involving Commonwealth, State and Territory governments, through the Ministerial Council (MINCO), together with employer and union involvement.[31] Relatively few decisions have been based on the independent inquiry process with some exceptions: the Kangan Report (1974) establishing the modern TAFE system; the Kirby Report (1985) establishing traineeships; the Finn Report (1991) setting training targets; and the Taylor Report (1996) which reviewed the ANTA agreement.

The presenter made the general observation that policies appear to be more enduring when they are based on full consultation and systematic research.

Use and factors affecting use: An important distinction was drawn between 'use', that is *how* research might be used in decision-making settings, and 'factors affecting use', that is *when* and *why* research is used or not used.

'Use' was seen to have several meanings, depending upon the decision-making setting: 'different groups have different meanings as to what use might be'. Five types of use were distinguished:

- instrumental use: when new knowledge is used for problem-solving in an agency, and the need for knowledge has originated in that agency
- conceptual use: when new knowledge leads to users' increased conceptual understanding and long-term changes in thought patterns
- political use: when new knowledge is used as a weapon in an explicit political conflict
- interactive use: when new knowledge is used with other elements to construct a knowledge background for a key decision, such as to use a new technique or create a new policy
- legitimative use; when new knowledge is used to back up or justify a decision already made by an agency

This typology would seem to be of value where decisions at a systemic or institutional level are the subject of analysis. In particular, the typology suggests to the research team that 'impact' can encompass more than 'influence'; that impact should be seen to include both 'use' and 'influence'. This matter is discussed further in section 6.

Working knowledge: The same presenter also introduced 'use' at the individual decision-maker level, drawing on the 'knowledge' literature and his own work in this field. He offered a conceptualisation of how the new knowledge derived from research is integrated with the 'working knowledge' of individual decision-makers.

'Working knowledge' is defined as:

> *the organised body of knowledge that administrators use spontaneously in their work. It includes the entire array of beliefs, assumptions, interests and experiences that influence the behaviour of individuals at work. It also includes science knowledge [i.e. knowledge gained from scientific inquiry, i.e. research].*

The term 'working' as used here has two meanings. First, it means that this is a special domain of knowledge that is relevant to one's job. Second, it means that the knowledge itself is tentative, subject to change as the worker encounters new situations or new evidence.

Working knowledge is seen as a combination of three elements:

- formal evidence derived from 'professional social inquiry', including research
- experiential ('craft') knowledge derived from practical experience
- local knowledge derived from specific local circumstances

This conceptualisation suggests that workers in different settings require different combinations of these elements. For example, individual training providers may use experiential or local knowledge more often than those working as policy-makers in central agencies who are concerned to a greater degree with system-wide issues of a strategic nature (and to a lesser degree with program detail) and may rely more heavily on formal evidence.

These 'knowledge' approaches can contribute valuable insights as the substantial literature attests. However, the research question for this Impact Project has been formulated to focus primarily on decision-making at the (aggregate) systemic or institutional levels. Consequently, this approach is given less detailed consideration.

Linkages: The linkage concept also attracted attention in this session. One presenter distinguished between formal and informal linkages and noted that appropriately structured arrangements can provide a means of monitoring policy developments and concerns. Another noted that Huberman (1987, 1990) had identified sustained formal linkages ('sustained interactivity') as being an important means of achieving instrumental change. A third commented that strong linkages were also a means of ensuring that researchers addressed the right questions.

The transfer of people between the research and decision-making domains was another form of linkage to which attention was drawn. It was noted that people-as-linkages not only facilitates the flow of information. The movement of policy-makers into research settings provides the opportunity to capture that other benefit of research: trained personnel.

Reference was also made to multiple pathways and impacts, akin to the research team's conception of a network of linkages. It was suggested that the team think about use of research-based information in terms of its impact, potentially at least, on a wide range of people. The VET system includes a number of communities: policy-makers, providers, enterprises and unions, and individuals; and the pathways of use and influence can go via many routes rather than just one (say, policy-maker to researcher). The routes can be indirect as well as direct; and may not operate immediately. In this scenario translating ideas and concerns is not a task for researchers alone but for all stakeholders. It was suggested that the stronger the linkages in a variety of directions, the stronger the pathways of influence are likely to be and the greater the likelihood of the uptake of new ideas.

Relatedly, there can be multifaceted sources of, and destinations for research. For example, while some practical problems seek solutions, or at least contributions, from the world of scholarship, in other cases ideas develop in the world of scholarship and have application, sometimes very important applications, in the world of practice. There are also a wide range of possible interactions and feedbacks.

Factors which contribute to or limit the use of research in decision-making from the researcher's viewpoint

Five presenters[32] drew on their experiences as researchers to provide insights into the factors that affect the use and influence of research in educational (including VET) decision-making.

A VET researcher identified three areas where there are significant constraints operating to limit the impact of research. His views found resonance with many participants. First, the VET policy-making environment operates in a manner that limits researchers' inputs. A rapidly changing policy environment can mean that related research, even if of quite short duration, is completed after the 'policy cart' has moved on. Researchers also find it hard to keep up with developing policy positions, especially where they are shrouded in secrecy or information is 'commercial-in-confidence'. Further, written policy positions are sometimes difficult to access. Together, these circumstances mean that the necessary policy information on which research might be based is not always available in a timely manner.

Secondly, contract-driven research by its very nature can act to limit the level of benefits that might be captured from the research system. This factor is particularly important as contract-driven research is said now to represent a significant proportion of the 'big' money for VET research: ANTA and the State and Territory training authorities are now the main drivers of VET research. Much contract work is very short-term in its focus and very instrumental: too often it would seem to be looking for 'simple answers to simple questions'. The research question is often poorly put: the outcomes are poorly specified or mis-specified in the consultancy brief, indicating that the funding agency may not be quite sure about what it really wants. There is a tendency on the part of funding agencies to focus on specifying the methodology, which seems curiously at odds with the general lack of clarity about desired outcomes. A further problem related to contract work, one that troubled many participants, was that the contracting agencies tend to want supportive answers. 'They do not want or will not allow the hard issues to be identified . . . those letting contracts do not encourage criticism, [they] don't like hard questions.' There was an uneasiness that to give criticism might jeopardise future funding.[33]

Thirdly, there are constraints that operate in the research system. The essential problem is that the kind of research that VET research users say they want is not valued so highly as the more typical research in the university system. It was argued that the reward structures within universities, where a significant proportion of VET research takes place, act to limit VET research outputs of the type generally favoured by VET policy-makers: applied research, cast in simple terms, certainly in terms that would not satisfy academic peers or the referees of reputable journals, does not weigh in heavily against universities' promotions criteria; and counts for very little in research quantum calculations upon which much research funding is based.

There is a related matter. Some research work is essentially serendipitous (pure research and basic strategic research). The implications of such research are not clear at the outset, and it is not apparent where it will lead. Yet this type of research could redefine some of the more fundamental parameters or key descriptors of VET. General reviews may also improve our knowledge base. It is noted that those concerned with research in the natural sciences and mathematics have learnt the importance of maintaining and improving their knowledge base.

A second presenter, more concerned with educational research on schools, reviewed a number of studies undertaken by ACER where there was seen to be an impact. In his view, there were six main contributing factors:

- the studies were timely, although more often this was fortuitous than planned. Timeliness is also an issue at the outset of the project. It takes time to plan and set up a project and develop the appropriate linkages. The two weeks between announcement and date of closure, a feature of many calls to tender, generally is too short, and may jeopardise the quality of the project, to the longer term disadvantage of the funding agency
- the issue was seen to be important. Those promoting dissemination sometimes forget this factor when talking about dissemination in abstract terms
- the quality of the research was sound. ACER has found that poor quality research tends not to be used. Relatedly, the message was clear; the reports were written in clear and unambiguous terms
- potential users knew the report was under development and they were part of the 'thinking'; the reports were promoted by means of a planned dissemination strategy

A third presenter commented on factors contributing to or limiting the use of research in the expert and independent inquiry process, drawing on his experience with educational inquiries. He argued that inquiries are a way in which research can be brought to bear on public decision-making; research is often given a role, especially where members have had prior experience with research. The impact of research (on outcomes) will be mediated by the purposes of the inquiry. There are many reasons for inquiries to be conducted in addition to gathering evidence upon which sound or improved decision-making might be based. These include: to buy time; to placate pressure groups or to neutralise them; and to legitimise decisions where governments may want to distance themselves from potentially difficult decisions.

Another presenter described the significant expansion in research work being undertaken by the 'Big 6' consultancy firms. A number of factors have contributed to this expansion: the work undertaken by the large consultancy firms 'tended to be at the 'D' not the 'R' end [of the R&D continuum] . . . [these consultants were] often synthesising existing research (and were) not confined to a particular discipline as in universities'; the expansion has followed the downsizing of the public sector and the decision to outsource much of the advice that 'helps policy happen'; the policy-makers want to 'solve problems'; and they want advice urgently; and consultancy firms have particular skills in linking various resources together quickly. However, it was noted that 'it can be tricky for consultants in putting forward views that evidence suggests but clients don't want to hear'. It was also noted that it was desirable 'not to be smarter than the client'.

Finally, a researcher with a background in higher education and labour market decision-making offered 'some practical lessons linking research to policy-making' which were described as 'exercises of persuasion or influence'. He offered a five-point plan as follows:

- make it simple to present: the concept may not be simple, but demonstrate it in simple terms
- explicitly consider the distributional consequences: initiatives usually mean taking from one group and giving to another and the losers are often not well organised so their voice may not be readily heard
- be sensitive to budgetary constraints: that is, the cost of initiatives
- stress inherent fairness
- present the message differently to different stakeholders: the arguments need to satisfy the key stakeholders; emphasise different aspects differently

3.5.4 Session 5: Community relations—researchers' contribution to facilitating interactions between wider economic, political and societal systems and VET

How have researchers and research contributed to facilitating linkages between VET and the wider community including the business community, the union movement, local government and adult and community education? Unfortunately, we cannot judge with any precision or finality from the presentations given in this session. It was notable, however, that research undertaken by researcher participants at the symposium on other VET issues had previously brought them together with 'community' participants: the research had acted to create, develop and nurture linkages. Indeed, the symposium itself acted as a linkage in relation to a matter of importance to most if not all participants.

Has research been undertaken or sponsored by these communities which contributes to the development of linkages between them and the VET sector? The answer is 'yes'. All presenters gave examples of research undertaken or sponsored by their organisations. Generally, this research is intended to serve their own immediate needs, and in that context to enhance their understanding of VET issues. For that reason the research probably has a high 'usage' rate, but it is not intended to be widely distributed. As one presenter said, 'it is ours'.

If follows therefore that these groups' research efforts would generally not be widely known. The realisation that such research does take place extended symposium participants' understanding of who undertakes or sponsors VET research. It challenges the view, widely held and implicit, if not at times explicit, that research on VET-related questions is only undertaken in universities or in the large consulting firms.

The various presentations made in this session and reported below illustrate the complexity of the relationships between some communities and VET and the role of research in these contexts. A representative from a peak employer organisation commented on four VET issues that interested the organisation.

The first issue was whether the VET sector is employer-led or is the employer position being whittled away so that they are just one of a number of players? In the presenter's view it is the employers who provide the jobs; they have a major stake in VET; they are key stakeholders.

The second issue raised concerned whether employer organisations represent employers. Not all employers belong to organisations. On the other hand, individual employers are preoccupied with running their businesses and especially in 'tough times' their focus tends to be on 'how does [an issue] affect me'. They are not interested in research and related questions unless there is some direct benefit to them. They rely on their organisations and key staff within them, to keep up-to-date with relevant developments, safeguard their interests and advise employers of significant aspects.

Thirdly, it was noted that employer organisations generally do not initiate much research themselves and they find a lot of research on VET undertaken by others to be of no interest to them ('not useful, not short, not precise'). However, from another perspective they are actively involved in the research endeavour: they are being inundated by research consultants (responding to tight timelines being driven by government) who want employers' views incorporated in research reports.

Finally, the challenge of distributing research findings and other material to employers (in a way that connects with them) is one for employer organisations as well as for researchers. Training issues are important to employers, but promoting messages, especially to small business, is difficult.

Then followed a union representative who addressed three research issues from the perspective of his organisation. First, the union conducts a range of research:

> *union research has many aspects, industrial, for salary and conditions issues such as for court cases or to assist in negotiations, research to support pedagogy as well as research on a broader ideological, political and social scale which assists us to campaign in the wider community'.*

The latter research plays an important role for a union in an industry largely dependent on government funds. And of course, this research is agenda setting. It was said that some 80 per cent of the union's research effort is devoted to industrial relations, including enterprise bargaining.

Secondly, comments were made on current VET research activities: 'it is important for the integrity of research in VET that more reflective and critical research is commissioned'. It was argued that there has been a tendency over recent years to reflect policy-makers' views rather than to influence their decision-making (which is not to deny that much valuable research has underpinned the implementation of training reforms). However, it was put that research undertaken to aid the implementation of policy initiatives without sufficient critical research can lose the support of the groups whom it is intended to influence. A number of areas that might be researched were also listed; these included the monitoring of individual student choice under User Choice, and equity issues.

Thirdly, the union's 1996 federal election research was described: it influenced the union's actions, and in their view probably had some effect on community relations concerning VET, and established or consolidated linkages with the political parties and individual politicians. In a sense it was seen as defensive research, designed to protect the union's interests after an anticipated electoral loss by the ALP.

A third presenter presented two case studies involving local government and the adult and community education sectors. In both cases efforts to promote research were part of a larger initiative intended to develop a new ethos in the respective organisations: research was to be part of a change management process. Thus in the local government case, alliances were forged with a local TAFE and with neighbouring universities for research and training purposes. In the ACE sector, it was reported that a large provider had made a concerted attempt to encourage the development of a research culture. Five major initiatives were instituted: the establishment of an in-house research fund to encourage research projects by centre for advanced education (CAE) staff; the appointment of a research officer; the development of a research plan; the encouragement of personal research; and applications for external research grants.

It was argued that both these developments had resulted in an improved organisation, with benefits both for staff and clients. From this position the presenter argued that the symposium had not dealt sufficiently with the 'political realities' and how for better or for worse, they bear on the research endeavour. 'VET research needs to be more open, more forward looking, more progressive, more ethical, more involving of the community, than perhaps we touched on in our discussions yesterday.'

Ethical issues were taken up again in the discussion period that followed. It was argued that the ethical content of research, policy and practice had to be considered in the overall VET setting. For example, the relative weight to be given by TAFE teachers in their practice to the different interests and expectations (where they *are* different) of students and enterprises, employees and employers. Ethical issues are long-term, they are important and they differ between key stakeholders in VET, but they can be difficult to address satisfactorily. Often there is a balance to be struck rather than a single correct answer.

Taken together, the presenters in this session brought to the research team's attention questions about the nature of the linkages between the VET system and these communities. The groups represented at the symposium can be at once part of the VET system when they are seen as being among those organisations whose incentive structures, activities and interactions determine the levels, patterns, and quality of training delivered in Australia, yet their main focus can be and often is beyond the focus of VET: they can have wider concerns and they are often seen as separate from VET, albeit important stakeholders. Employer organisations and unions are two such groups, which have these multiplicity of roles and which act both within VET and outside it.

Thus, a participant in an earlier session who represented a peak employer organisation established his body's interest in VET issues in the following terms: from a policy perspective, the organisation had a particular interest in new apprenticeships, User Choice, VET in schools and workplace assessment; as a participant in the VET system, the organisation was involved as a member of a State training board, as a registered private provider, as an industry training board member and a Ministerial Council on Employment, Education and Training (MCEETYA) taskforce member. From these perspectives he made considered judgements as a user about which research was 'useful' and which was not. He also identified ways of increasing the impact of research. These included:

- to tackle some of the key issues not yet addressed, e.g. workplace assessment
- to report more than observations; to look for the policy issues suggested by those observations ('the hard part')
- to become more aggressive advocates of research findings; or to work with advocacy organisations such as industry groups
- relatedly, to develop alliances with such stakeholders with an interest in VET
- to use public relations activities more effectively

3.5.5 Session 6: Research, decision-making and action in other areas of government, and internationally

In this last session two papers on research, decision-making and action in education and health, respectively, were presented; a third gave a US perspective on the symposium's proceedings; and finally, there was a paper which described New Zealand's experience in linking research with broader social and economic outcomes. These papers provided valuable perspectives from outside the VET experience: they set the research question in a much wider context.

Education (Australian perspectives)

The first presenter drew on his long experience, both as a researcher and as a participant in policy-making processes, particularly but not only through the public inquiry process, to respond to various matters raised earlier in the symposium. Five main points are noted.

First, the symposium participants were reminded that research is a heterogeneous concept and research activities are very diverse. 'Research in education [and by implication also in VET] is so diverse and includes so many approaches that we are not communicating well if we just talk about research with a capital R.' It was commented that the paper distributed before the symposium provided a 'good starting definition' and that it had been elaborated usefully in the previous day's discussion, which focussed particularly on OECD/ABS-style 'types' of research. Another 'dimension of complexity' suggested by the education experience is that, as a subset of social science research, a wide range of methodologies can be usefully employed. It includes experiments with human subjects; social surveys; longitudinal or panel studies; observational, ethnographic and archival studies; public opinion polls; analysis of census and other statistics, etc. Different problems benefit from different techniques, approaches and methodologies. Further, a great deal of research in education is conducted from the standpoint of a particular disciplinary perspective: e.g. economics, sociology, demography, psychology, history.

Secondly, it was argued that resource pressures are resulting in the channelling of research in ways which would seem to threaten key aspects of the knowledge base, and which could limit research's potential to contribute to broader societal objectives, especially in the longer term. Competitive pressures the publications race, pressure on academics to bring in outside money, and the research quantum funding approach for much university research are influencing the sort of research questions being asked and the methods used. 'The quest for resources and the way resources are flowing is now becoming the tail that wags the dog.' The incentives are to tackle research questions that can be brought to closure in a specified time period and to choose topics that will lead to publications and more funding. Research which is 'lateral', which may not lead to any 'clear, crisp, positive finding', which is outside the dominant paradigm, or which takes a long time including longitudinal studies—'probably the most powerful methodology to understand the long-term consequences of interventions'—are being neglected.

Thirdly, picking up a point raised in a previous session, that VET policy-makers were reported to be suspicious of the growth in research on VET issues within universities, the observation was made that 'anyone with relevant skills can carry out research and they can do it anywhere'. However, there are significant advantages in carrying out research in universities and research centres: they are a 'designed environment' for research; they have a 'research infrastructure'; and there is a 'climate of critical support' that can add to the quality of research. It was argued that people in VET institutions interested in research should be encouraged to obtain visiting appointments or secondments to a university or a research centre to pursue their ideas. The benefits of these appointments would be 'mutual to all parties'.

Fourthly, the presenter emphasised that the policy environment and the academic environment have very different cultures. A survey undertaken by the presenter of subscribers to the journal *Youth Studies*, directed at understanding the use of knowledge from the research domain in policy, illustrated this difference. The survey found that the researchers expected policy advisers to learn about research findings from journal articles; while the senior policy advisers never read journal articles: 'They were the last things they would read if they read anything'. Their sources of information were (in order): the print media; informal networks; reports of inquiries; conferences; books; and journal articles. Given the two very different cultures, the presenter expressed the view that he would be 'very suspicious if there was a firm bridge [between the research and decision-making environments] with ideas marching across'.

Finally, reference was made to the apparent lack of willingness of VET decision-makers in most States to use research originating in another State (participants had already referred to this matter in previous sessions). The implied duplication is an inefficient use of scarce research resources and reduces the overall national impact of research on decision-making. It also limits comparisons and the constructive questioning of current policies and practice. This matter primarily is a problem for decision-makers, but it adversely affects researchers, too.

Education (US perspectives)

There are many similarities, and some differences, between Australia and the US in relation to the matters which the symposium had under discussion. Attention was focussed on three areas, all relating to issues which had been discussed extensively already: the nature of research; the dissemination function; and the uses of research.

On the nature of research, the presenter concurred with the view that research covers a broad range of activities, but highlighted an important type of research, at least in the policy-making context, which had not yet been discussed at the symposium: 'partisan research . . . research done by organisations outside universities' by institutes with a particular agenda; for example, the work done at the American Tobacco Institute or the American Rifle Association. These research activities are 'pretty close to advocacy'; and they use research as one of the weapons in their armoury. Partisan research can also be conducted or supported by research foundations which are politically oriented, in terms of the 'right' or 'left'. The importance of this type of research, it was argued, lies in the fact that the US political system is moving 'much more towards interest group politics'. Partisan research also includes those efforts that act to, indeed which are intended to, form public opinion. The ideas in currency, 'what is in or out', are highly influenced by public opinion. It was acknowledged that this approach is one which takes a broader view of research, but it was argued that to take a view on research's use in or influence on policy requires a very broad approach which incorporates politically-oriented research.

The presenter also commented on the importance of evaluation of practice in the total research effort. He noted that in the US evaluation generally is not funded and that a lot of practices were perpetuated, and even expanded, without being evaluated. It was argued that the incentive structures in universities do not support undertaking evaluations: basic research is preferred to applied; researchers are not trained to do evaluations; they are not rewarded for doing them; and the promotions system, based on peer review, tends to judge research by reference to refereed publications, which do not favour evaluation reports.

The presenter drew attention to a recent book by Ernie Boyer (*Scholarship reconsidered*) in which the author argues that the synthesis and application of knowledge is 'very viable' scholarship (in addition to knowledge generation). The presenter also argued the case for cross-national and cross-State research: policy-makers could take advantage of the wide range of natural experiments going on across systems. For example, the US is moving away from vocational education in secondary schools at a time when Australia is promoting VET in schools.

On dissemination the presenter linked his discussion with his views on the importance of public opinion in policy-making. He argued that, if a very broad view of policy-making is taken to include the public at large, then it is important, *inter alia*, to direct (research)-dissemination activities towards the public. The media becomes important as a means of dissemination if one takes this broad view: 'policy-makers read the print media, not journal articles or books'. (The role of the media in forming public opinion and influencing decision-making was raised in passing by a number of symposium participants.)

The growing role of dissemination intermediaries ('brokers') was also noted. If brokers are to become important, how might the system be structured best to support them? The presenter referred to the National Diffusion Network, a US government agency whose role is to document and evaluate best practices in secondary and post-secondary eduction (including vocational education) in the US. It will have a role, too, in diffusing information throughout the broader educational community. Other groups, such as professional organisations, might also act as dissemination agencies.

Concerning the use of research, the comment was made that there was a need for a broader view of research to address how research is used in practice. Not only is research knowledge important for changing practices, so too is specific local knowledge. There is a case for generating local knowledge as well as using research knowledge. He argued the case for action research, but noted that university incentive structures do not favour that type of research.

Health

The presenter reported on Australian studies that have examined research impact in two areas of the health industry: health labour force studies and health technology evaluations. A number of findings in these studies were argued to have particular relevance to the Impact Project.

First, the experience in the health sector illustrates that different industries in which governments play a significant role can have different structures, cultures and traditions and that these features affect the nature and the strength of the linkages between research and action. Thus, in the health sector, a clinical director may be actively involved in service provision, in tertiary teaching and in research. In the VET sector these activities are separated. Building more effective linkages needs to take into account the established structural features of the industry or sector.

Secondly, in the health studies considered there were found to be systematic differences among researchers in different locations as to the extent of their knowledge about the use of the research undertaken by them. For example, university researchers often did not know how their research was used, whereas those undertaking research in government agencies tended to know if their research was used and if it made a difference. Generally, there is a lack of feedback to external researchers on how their research was received and used, which would seem to militate against learning how they could better link their research with decision-making in future.

Thirdly, the studies concluded that the particular academic discipline of the researchers can be important in affecting many relevant aspects of the relationship between research and decision-making, such as the problems they choose to investigate; the detailed research questions they formulate; the evidence they collect; the analyses they conduct; the implications they derive; and the forums in which the findings are disseminated.

Fourthly, consistent with earlier discussions at the symposium, the health studies found that research undertaken by consultancy firms was becoming increasingly important, and a relatively high proportion appeared to have a significant impact on decision-making. However, it was not clear whether this result was a reflection on *who* did the research or a reflection of the *type* of research being undertaken; that is, research intended to address immediate problems and which may have been commissioned with a fairly high expectation of use in decision-making or practice.

Finally, a number of factors, which influenced research impact in the health area, were elaborated. These same factors had been referred to earlier by other participants at the symposium. They included:

- the importance of sponsors or 'champions', whether in initiating the research, undertaking it or making effective use of the research results: if the minister changes, the government is defeated or a key participant resigns, there can be important effects on the relationship between research and use
- 'the ethos of the times' which affects both the type and content of research, and also which types of research have audience and whether they are used: in theory, a period of growth and professional development, such as the 1970s, may tend to produce research with a different emphasis from that produced, say, in the 1980s and 1990s, where the emphasis is more on efficiency and managerial technique. Linked with this can be changes in accepted methodology: some nursing studies,

for example, brought a feminist analysis to bear on issues, whereas other studies were more traditional in their approach

- if the group which was the subject of the research identified with the composition of the committee or group undertaking the research: this factor was found to be particularly important if the group in question had a strong political voice
- the availability of policy instruments, that is, appropriate mechanisms by which changes or suggestions resulting from research can be implemented: in general, it was found to be helpful if the researchers considered how the results of their studies might be used. However, there may be cases where key variables underlying research results in VET are difficult to alter, for example, socio-economic factors, gender or race
- the quality of the study, the conclusion being that it is possible to overstate the importance of good study methodology, since 'this is usually only a necessary, but not sufficient condition [for impact]': good methods alone appeared not to be very convincing to the opponents of recommendations, although good methods could be important in defending research studies from attack by those who opposed their conclusions
- the timeliness of the research: there were key stages where important decisions have to be, or can be, made and when research results were more likely to be used. Timeliness can also relate to the broader economic and political environment within which research studies are undertaken and results presented (for example, the stage of the electoral cycle). It appeared to be clearly wrong to view the results of research studies, and their implementation, as quite independent of the decision-making context prevailing at the time they became available
- the distributional implications (meaning which groups gain and which groups lose) of studies' findings and recommendations can affect impact. Thus, implementation of recommendations of a research study, which would be in society's overall interest, may not occur because the outcome would adversely affect the interests of some powerful group

The New Zealand experience

This stimulating paper addressed two matters: economic aspects of human capital creation and R&D; and recent developments in science and technology policy in New Zealand relating to R&D and human capital development. The presenter was notable for the fact that he was closely in touch with theoretical developments relevant to his applied policy work; was intellectually engaged with the literature and read widely about the issues; and was constantly exploring the possible links between the developing theory and the bureaucratic decisions to be made in his policy capacity at the NZ Foundation for Research, Science and Technology. The foundation funds about 60 per cent of scientific research in New Zealand (but not defence, health or the universities). It seeks to 'buy' outputs, including faster economic growth. The foundation has considerable control over the flow of funds, which can assist greatly in turning policies, whether derived from research perspectives or from elsewhere, into action.

The starting point for the presentation was that 'the accumulation of knowledge and skills (as most broadly defined) are the major causes of economic growth'. No country can achieve high per capita income and economic performance without an advanced level of education and training. Knowledge and technology drive economic growth, but in turn human capital is the essential element in, and drives the development of, new knowledge and technology.

The 'new growth' theories demonstrate increasing rather than decreasing rates of return to research, human capital and technological investments. Major technical advances 'build on technical platforms' created by past research or technical change. Human capital is often a rival good, but it is also the crucial input into the production of new knowledge and technology, for example through R&D. Knowledge created through research is often non-rival and non-excludable. A feature of non-rival goods is that they lay a technical building block for future or downstream technical change and innovation. 'Non-rival knowledge creates wider social benefits that cannot be (wholly) captured by, for example, a company investing in education and training.'

It was argued that the fundamental difficulty with the traditional human capital model is the indivisibility of much education and human capital creation, and the interplay and synergies that occur within educated communities. That is, 'when individuals accumulate new human capital, they inadvertently contribute to the productivity of capital held by others'. This occurs at the levels of individuals, firms and countries. It is important, it was suggested, that educational and training infrastructure recognises the synergistic elements in human capital development and that 'we avoid the trap of funding vocational training as if it were always an industry-specific investment'.

In relation to countries, industries and firms it is generally more productive, it was said, to research and develop new technology in close interaction with lead users and to focus this research as much on skill development and absorptive capacity as on creating new knowledge and new technology. 'Factors such as the inevitability of technical change and localised learning account for differences between companies and countries in behaviour, innovative output and technological competitiveness.'

R&D creates human capital as well as knowledge: 'this is at the heart of the way we are re-thinking the science system in New Zealand'. The outcome of research is co-produced goods: systematically created knowledge and the creation of human capital. 'Skills and research training allow scientists to undertake research. And the act of conducting research itself creates skills and competencies of value independently of the knowledge created. The co-location of education and research is synergistic.' The main economic benefits from basic research are not published information, but 'a supply of scientists and engineers with problem-solving skills, comprising background knowledge, familiarity with research methodologies and instrumentation, and membership of informal and often professional networks'. Basic research can therefore be justified on the basis of its contribution to human capital creation and skills development.

Strategic research is also as much about creating skills as knowledge. This is especially so in differentiated sectors, where innovation is often firm-specific and more dependent on skills than on new scientific advances, and where it is difficult to identify generic knowledge gaps of importance to more than one player. The formally published and codified knowledge created through such research is less important than the skills it develops and 'the tacit and uncodified knowledge and competencies in the minds of young graduates who then work in industry'.

Research-based human capital development is also needed to absorb new technology and R&D results from both local and international sources. It helps create the networks and technical competencies that allow both countries and companies to 'scan the environment, interpret, adopt and commercialise external technology'. Overseas and domestic R&D are complements and not substitutes; and the interaction between them is synergic and 'involves scope economies rather than being additive'.

Concerning recent developments in science and technology policy in New Zealand relating to skill development and human capital creation, the presenter focussed on two aspects. First, there is an increased emphasis being placed on human capital development as an output of public investment in research. Secondly, a 'more fine-grained approach' is being taken to R&D, technological learning and knowledge application through developing and applying a taxonomy of differentiated learning and knowledge application in the economy. The foundation is increasingly concerned to understand how firms learn about linkages and networks, and how to expand the technological possibilities further, whether through research, production or training.

3.6 Symposium findings

In the tender accepted by the funding body the research team stated that:

> *we know from studies of the use and impact of research both within education and in similar areas that the relationship between research and its outcomes is almost always complex and not easily discerned . . . [and that] . . . it is important to note that we do not expect to detect easily the impact of particular pieces of research.*

The research question, as initially specified, would seem to imply an uncomplicated, linear relationship between research and decision-making. In fact, the relationship cannot be so simply described: the symposium presentations and discussions confirmed that the relationships are complex.

The symposium advanced the research team's thinking[34] on 'impact' issues in the specific context of VET in a number of important respects (thereby identifying the elements to be highlighted in responding to the research question.

On research

- The accumulative nature of the research enterprises is stressed. Much research does not stand on its own as a piece of work, but adds to that which existed before as well as drawing upon it. This accumulating body of knowledge contributes in decision-making to the creation of a climate of opinion and the development of a set of ideas. Individual research studies are used and can have influence, but examples may not be typical so that they cannot judge the value of research alone.
- Research, including on VET matters, is diverse and includes many approaches. The motivation for undertaking research studies varies; and it can be carried out in a number of locations. These different locations have their own history and cultures and their own incentives and reward structures. Each location tends to specialise in undertaking different types of research and to produce different combinations of research outputs.
- Many different disciplinary perspectives are employed. To the extent that researchers adopt an approach based on a particular discipline it has significant implications for the key questions posed, the techniques adopted, the way the results are reported, and the audiences to which the results are communicated.
- To view research as the servant of decision-making is incomplete, especially if research is conceived as narrowly instrumental and short term. Research has other important societal purposes.

On VET decision-making

- In Australia, different decision-making settings can incorporate research very differently. Most key VET policy discussions occur through the 'pragmatic negotiated political approach'; consequently, systematic use of research and full public consultation have played a relatively small role.
- Policy-making in VET is mediated through complex structures and arrangements, the policy domain is contested, and the whole is complicated by an apparent quickening in the rate of change. Together, these factors serve to limit the use of research.
- Generally, there is not a strong research culture in VET organisations and among VET decision-makers.
- Whether research is used or has influence may not be recognised among those responsible for framing decisions; research is not always visible to decision-makers.
- It is often the community's call for change, rather than direct research evidence, that produces change in policy or practice. This call (which may be referred to as 'clamour') can both serve to initiate research and be driven by it. In these circumstances, the impact of research is mediated through community activity and the political process. The media can play an important part in these processes.

- Training has become more closely linked with other areas of public policy in recent years. Many of the main drivers for change and reform originate outside VET and have strong links with research in these areas. Research on issues outside VET may bear importantly on VET on occasion.

On impact

- The ways in which research can have impact are more wide-ranging than might appear from the original formulation of the research question. The symposium discussions suggest that 'impact' incorporates two elements: 'use' and 'influence'. 'Use' refers to whether the research serves a particular purpose. 'Influence' relates more closely to whether the research has had an effect on decision-making; that is, whether it made a difference. 'Use' in turn, can have several meanings depending upon the decision-making setting including: to solve a problem; to justify a prior decision; as a weapon in a political debate; and to improve conceptual understanding.

On linkages

- The linkages between research and decision-making systems in VET are 'weak'.
- The tendency has been to focus on 'dissemination' (narrowly defined) rather than linkages. Dissemination is one form of linkage, albeit one which is given particular emphasis in the VET area. This emphasis may reflect a lack of understanding of the importance of linkages; or the absence of an otherwise strong web of linkages; or the uncritical view of dissemination as the final phase in the conduct of a research project (or all three).
- To focus on linkages is to be concerned with facilitating the establishment of multiple areas of collaboration between researchers and users (and other groups), given the multiple pathways through which research can influence policy and practice.
- The web of linkages includes both formal and informal arrangements.
- The relatively weak network of effective linkages undermines the potential impact of research on VET decision-making. Enduring linkages are based on the sustained mutual esteem and understanding of the potential contribution of each party—and where those linkages emphasise collaboration for the larger good of the VET system as a whole.

On community relations

- The linkages between VET and the wider community (for example, the business community, the union movement, local government and the ACE sector) are complicated. Some communities are part of the VET system in that they are among the organisations whose incentive structures, activities and interactions determine the levels, patterns and quality of training delivered in Australia; yet their main focus is beyond VET. They are at once part of the VET system but separate from it.

Footnotes

[28] The presentation on the New Zealand system (see report of session 6) also stressed that R&D creates human capital as well as knowledge: 'the outcome of research is co-produced goods: systematically created knowledge and the creation of human capital'.

[29] In a later session, a presenter distinguished between 'focussed' and 'unfocussed' research, commenting that unfocussed research is very significant in the total: 'obviously [it] can contribute to the store of knowledge'. The differences between focussed and unfocussed research might line up against 'direct' and 'indirect' impacts. When evaluating focussed research, the question is: 'whether it delivers an outcome? . . . the focus is relevant in terms of evaluating the research: evaluate against its focus'. Unfocussed research can add to the general store of knowledge and improve understanding of the VET sector. In the presenter's view, to have only an outcomes focus is too narrow. It was noted that some 'good' research may not be used because it did not tell the decision-maker exactly what they wanted to know at that time: 'it didn't take the current debate further'. However, this was not to deny that it could be useful to others, at another time or in other circumstances.

[30] Session 3 focussed on research and researchers' perspectives from the viewpoint of VET research institutions, and Session 4 from the viewpoint of other sources of research. Given the similarity of views expressed in the two sessions, their reports were brought together.

[31] Sometimes this complex political context has led to a different kind of policy investigation approach where one of the stakeholders undertakes an investigation (such as the Carmichael Report).

[32] Including a presenter in a later session.

[33] One participant drew the implication that it was important in these circumstances for researchers to have a diversity of funding sources and not be wholly dependent on a particular funding agency or group.

[34] Beyond that set out in the tender document and in the background paper.

Chapter 4

An analysis of Australian research on VET: 1988-96

4.1 Introduction

THIS CHAPTER ADDRESSES the questions posed by ANTARAC in terms of the range and character of VET research in Australia in recent times. In particular, it seeks to identify significant patterns and trends within that research.

The study sought to collect the results of Australian research activity in VET that commenced in the period following the release of the key document *Australia reconstructed* in 1987. This proved to be a more difficult task than anticipated and the experience of the researchers in this case has been matched by others who, in the period since this work commenced, were commissioned by various agencies to provide comprehensive summaries of Australian VET research in specific domains such as program evaluation.

Despite the difficulties associated with the feasibility of capturing and categorising much research, the data obtained demonstrates that the quantity and variety of research and development activity undertaken within Australian VET organisations is impressive. In the following sections we will outline some of the key features of the research which we have located. We recognise, however, that the collection is not complete and that, possibly considerable, other research was conducted during this period.

4.2 Methodology

Using publicly available data sources (e.g. the VOCED database) as starting points, the researchers identified as many researchers and research groups as possible. Wherever practicable, these were then followed up to obtain further information on other research and development activities that commenced in the period 1988-1996. Additional indications of research activity were provided by lists held by some State training authorities and by known research organisations. In a number of cases, these lists provided the only available source of information on the projects.

In many cases, the original researchers were no longer located in their original organisation and whatever data was available had to be used. In many cases this amounted to no more than a title for the research. In general, research initiated within major agencies was likely to be documented in some useful fashion though information on funding in particular was often not kept. Research at local level—especially that conducted within providers by teachers and others—was much less readily available and often was known only in the most general of terms.

4.2.1 Accessibility of research

When the study was initially being designed, the research approach adopted had assumed that information on research studies would be more readily and completely available than in fact was found to be the case.

At the heart of the difficulty is the very inaccessibility of much Australian VET research. Our experience has shown that a very substantial proportion of research into VET matters in Australia is not available in the public domain. Indeed a great deal is not even readily available from—sometimes even unknown to—the organisation in which it was conducted.

The reasons why this is so appear to be many and varied; however two appear to be of greatest significance:

- The VOCED database maintained by NCVER was originally intended to be the predominant repository of Australian VET research. Although this was the case in the early days, in more recent years its use as a repository of information about available research has declined. Many respondents in this study appeared to have little awareness of the role of VOCED and many were even unaware of its existence. In part this may be due to the entry of many new players to the VET research field, encouraged by the greater availability of funding as much as its richness as an untapped and relatively little understood educational field. Responsibility for submissions to the clearinghouses appears—in many cases—to be that of individual researchers and no active collection policy or promotion of the database appeared to exist. The result was that the collection, while growing significantly, has represented a somewhat haphazard accumulation rather than a systematic census. However there are now encouraging signs that the VOCED database will become a more useful aid. For example, the national VET research strategy—developed in mid 1997—makes a strong commitment to building up the VOCED database as a part of its strategy for wider dissemination of research findings. In addition, the VOCED database became accessible via the World Wide Web in August 1997, too close to the end of the study for its impact to be evaluated.

- Within State Training Authorities, significant changes in internal structures in this period have resulted in many staff having incomplete knowledge of the research occurring within their own organisation or in the institutions they govern. A number of respondents commented on the occurrence of parallel research activities being undertaken by different units within the same State Training Authority. Recently, however, a number of networks of researchers have been formed which may provide for more effective communication between researchers.

A further issue identified in the process of data collection related to the availability of outcomes from many commissioned activities. As the use of commissioned research grew during the period being investigated, so did the number of instances where information about the research activity could not be provided as a consequence of contract provisions. On a number of occasions, researchers advised that research (sometimes flagged in VOCED's 'Research in Progress' section) had been completed but was confidential to the commissioning organisation and further details could not be provided.

4.2.2 Difficulties of categorisation

As a consequence of the lack of information on much research, the categorisation originally planned had to be considerably simplified.

Moreover, the difficulty of collecting reasonably complete information on local, practitioner-based research became clear at an early stage of the study. As collection continued, the researchers reached a point where it was decided that further pursuit of this class of work was not likely to prove profitable and was terminated. The data collected on this kind of research and development activity is principally derived from NSW and, to a lesser extent Victoria. As such its generalisabilty is limited and it is presented here simply to illustrate the general character of this kind of research. Even so, its very inaccessibility is a significant finding in itself.

Information on research activities was then recorded according to a predetermined schedule and relied on written records wherever possible and verbal reporting where written records were not available but an appropriate informant could provide necessary information. In many cases we were not able to obtain full details of particular pieces of research activity. In particular, sources of funding, sponsoring organisations and other similar data were often not available. Commonly the individuals involved in the research were no longer available and records held within the organisation did not provide the information sought. In these cases, assignments to a particular category were ultimately reliant on the judgement of the present researchers who drew on their knowledge and experience in the VET system over many years. In many more cases no classification was possible.

A difficult issue for the researchers was determining the boundaries of what should be reported as 'research and development activity'. While a definition of 'research and development' was adopted for the purpose of this study, the researchers frequently found that informants described as 'research and development' activities, which primarily involved the mere description of 'exemplary' practice. Often this work was significantly lacking in critical awareness, involved little methodological rigour and appeared to be more concerned with promoting a specific program or practice than advancing knowledge or seeking to apply knowledge. Such activities have not been included in the collection of 'research and development activities' reported here.

A number of instances, too, were identified where the nature of the 'research' being offered was in the nature of routine, ongoing data collection and its use in monitoring system performance in various ways. These data collections are interesting in their own right and their availability is often not widely known. For that reason, details of these will be included in the supplementary volume which records the complete set of research and development activities recorded here. However, they are not included in the subsequent analyses.

4.3 Results of the quantitative study

Altogether, some 1068 different significant research activities were identified to have commenced in the relevant period (see below for more details) and there was a strong suggestion that the complete figure would be considerably higher. In particular—and not surprisingly—it was possible to most readily identify what might be thought of as major research and development activities while smaller, more locally-focussed activities were often undocumented or difficult to locate. However, it appears that substantial numbers of local, often action research, studies were initiated in this period of which little other than anecdotal history remains.

The database will be published as a separate volume in 1998; a sample entry appears at the end of this chapter.

The research activities collected in this study have, for purposes of simplification, been broadly categorised wherever possible according to internationally accepted classification schemes. For example, all studies were coded as falling into one of the following ABS categories (see earlier chapters for a more detailed discussion of these):

- basic research
- strategic research
- applied research
- experimental development

These categories were especially problematic in the context of VET research as this was not a description used by VET researchers. Accordingly most assignments to these categories were made by judgement and it was often the case that more than one of these categories might have applied. In particular, a number of studies had features applicable to each of the last three categories. This difficulty does not appear to be unique to the VET sector and it is worth noting that DEETYA reporting requirements for universities classifies research in terms of the proportion of the research which can be coded as falling within each of the four categories.

To provide structure to the following analyses, a further rough classification has been used. In this, each piece of research has been regarded as falling into one of three major classes:

- Research programs—where an organisation/consortium has conducted a number of studies that are interrelated and form a—more or less—coherent program.
- Research and development—where an organisation/consortium/individual has conducted a study which was, in most cases, designed to address longer-term issues and/or those beyond concerns of the immediate unit in which the researcher is based. In the main these include studies where the research is conducted by an individual or group who are primarily designated as researchers, at least for the course of the relevant project. This category includes all research that does not fall into either category 1, above, or category 3, below.
- Local research studies—where the research is conducted by an individual practitioner (or group of practitioners) primarily for immediate use in program improvement. These often have a local focus and, frequently, adopt an action research approach.

For the reasons outlined above, the subsequent analysis of our collection will focus on the first two categories of research and development activity. The third category provided us with only sparse and inconsistent data of a kind, which allows little useful generalisation. Thus the analyses which follow cannot be regarded as complete but rather are indicative of on overall pattern of research activity during this period. In particular it is important to note that smaller scale and locally-focussed research and development has been captured with much lower fidelity than has more large-scale and 'mainstream' research. This potentially has the consequence of distorting some of the global analyses reported below. However, we will look at this category of activity, briefly, towards the end of this section.

4.3.1 Research programs

Only a small number of research programs (eight in total) were identified in which all or some of the research occurred during the relevant period. This appears to be a consequence partly of the rapidly changing priorities of the VET system throughout that period and the related fact that most major research and development activity in the sector is the consequence of government commissioned or initiated research. Few research organisations operating during that period were involved in carrying out co-ordinated research programs which were involved in any systematic attempt to build knowledge in a particular area of VET policy or practice.

In almost every case, the research programs found in our study were the result of one or more governmental agencies repeatedly commissioning a single individual or organisation to pursue research around a common theme which represented a government priority of the time.

Of the eight programs of research, four were conducted within universities.

Table 1: Research programs

- Facilities planning investigations—TAFE NSW
- Competency standards for the professions—UTS
- Cognitive psychology investigations of work-based learning—Griffith University
- Economics of education and training—Monash University
- Vocational role of ACE—UTS
- Quality improvement (the BEEP projects)—OTFE, Victoria
- Linkages between VET and higher education—DEET with various universities
- Competency-based learning and assessment—NCVER

The relative scarcity of co-ordinated programs of research and development activity that appears to have occurred in this period is a cause of considerable concern. It indicates that the overall research effort in Australian VET is substantially one of fragmentation and one-off activity rather than forming a cohesive, incremental approach to the expansion of knowledge. This concern is strengthened by our examination of major research and development activities.

4.3.2 Areas of research effort

The studies were classified by the major areas or themes covered by the research. Originally it had been our intent to code only the main theme or area involved; however for many of the cases, more than one major theme was apparent and to record only one of these would have significantly distorted the outcomes. The categories adopted were broadly based upon the Asian Pacific Skill Development Programme (APSDEP) Thesaurus (International Labour Organisation [ILO] 1993) used by NCVER for their VOCED database but were modified somewhat to better reflect the balance of the research reported. For example, the APSDEP category, *education and training* was judged to be unhelpfully broad, while their category, *social development* was too rarely useable to be retained.

It is important to note, too, that some forms of research and development activity—notably the development of competency standards—are not well explained by any of the APSDEP categories. For the present purposes, these have been assigned to that which best describes the activity. Thus, research on competency standards has been characterised here as being included within *curriculum development and/or delivery*.

This categorisation produced the breakdown shown in table 2.

Table 2: Content areas of research effort

Content area(s)	Percentage
Policy and economics	8
Organisation and/or provision of VET	11
Support facilities—planning and/or design	11
Industry issues	5
Students/trainees	18
Teachers/trainers	10
Curriculum development and/or delivery	48
Assessment	23
Other	9

N=863. Omits local research studies (see above)
Note: multiple classifications permitted so total exceeds 100%

It is clear that concerns regarding the design, development and delivery of courses have been the primary focus of research during that period. Among the remaining categories, only *assessment* has attracted a substantial proportion of the total effort. Notably, this balance shifted during the six-year period under study with the greater proportion of studies addressing *economic, industry and organisation/provision* issues being found in the later half of the period. This appears to reflect the greater priority being placed on those areas by funding bodies in more recent times, as shown in table 3.

Table 3: Changes in focus 1988-91 to 1992-96

Areas in which activity increased	Areas in which activity decreased
Industry issues Policy and economics	Curriculum development and/or delivery

While not the focus of this research study, the researchers observed—especially in the case of curriculum-oriented research—the frequency with which similar research questions appear to have been addressed without apparent awareness of other already existing research or other research being conducted in parallel (sometimes within the one large organisation).

4.3.3 Sources of funding

A further basis of analysis concerned the source of funding for the various research and development activities identified. This analysis clearly shows the significant reliance on public funding which characterises this area. Virtually no major research activity in the period relied solely or significantly on private sector funding (see table 4, below). While many studies probably involved substantial in-kind contributions in the form of time, access to resources, etc. There does not appear to be any record normally kept of this and, in any case, it is not clear how this could be reliably quantified. Moreover, the amount of funding involved was not maintained with sufficient frequency to make estimates of the total funding allocated to R&D.

It should be noted, however, that our classification of funding sources might be disputed by some. For example, research activities conducted by ITABs have generally been classified as *public-commissioned* as the original source of funding was from public sources for specific, identified research activities and involved a contractual arrangement between the ITAB and a public authority. Moreover a substantial proportion of the cases did not provide sufficient information to enable a judgement on the primary funding source to be made. In cases where it was possible to infer the funding—e.g. research which was clearly conducted by employed staff as part of their regular work within a State training agency—that source was recorded.

Table 4: Primary sources of funding

Primary source of funding	Percentage of studies
Public—competitive (e.g. ANTARAC)	16
Public—commissioned	43
Public—internal activity	39
Other	2

N=432

It is important to note that the nature of funding for many VET activities makes a clear analysis of how funding is dispersed extremely difficult. For example, many of the organisations which conduct research and who are therefore in receipt of funds allocated on the basis of a tender process are themselves supported in other ways by public funding. The total public commitment to R&D is therefore probably higher than an initial examination would suggest, but the real picture is unlikely to be readily identifiable while current financial arrangements continue.

However, it does appear that, during the period of study, a substantial shift in the balance between these different sources of funding was identified with both *public-competitive* and *public-commissioned* increasing and research activity within public sector agencies declining. This appears to be related to changes in the underlying structures and processes of public authorities within the VET sector over that time.

Table 5: Changes in funding over time (percentage of studies)

Primary source of funding	1988-91	1992-96
Public—competitive	0	23
Public—commissioned	28	51
Public—internal activity	68	25
Other	4	1
N =	142	290

A hidden issue within the above analyses is the issue of the difference between the immediately apparent source of funding and the origination point of the funds. A great deal of the funding for research activities which are commissioned by State training agencies or are conducted or managed by them originates as Commonwealth 'national projects' funding originally distributed by DEET (now DEETYA) and most recently by ANTA. The original source of these funds is not usually recognised at the point at which they are applied. Indeed it was clear that many researchers are unaware of the source of the funding they receive.

4.3.4 Organisations conducting research

As with the already reported classifications, the study period found substantial changes occurring in the kinds of organisations involved in the conduct of the research and development activities identified in this study. In the early half of the study period, units and branches within government training authorities provided a significant proportion of the total research effort but by the end of the period were providing relatively little. By way of balance, the involvement of universities and organisations such as ITABs and consulting firms had grown to such an extent that they emerged as significant players.

Table 6: Organisations conducting research (percentage of total number of studies)

Organisation conducting research	1988-91	1992-96
Commonwealth/State authority	43	26
Committee of inquiry, working party, etc.	7	4
VET provider	16	12
Professional/industry body (incl. ITAB)	12	23
Enterprise/workplace	0	1
Consulting organisation	5	10
University	10	16
Other (or not clear)	8	6

N= 863

It is notable that very little research (except, presumably, for unreported local studies) is actually carried out by enterprises themselves despite the strong shift in public policy towards an industry-led VET system.

Another important observation is the linkage between the methods of funding for research during the 1992-96 period and the kinds of organisations engaging in research in this sector. Table 7 indicates that greater availability of research funding on a commissioned basis can be linked to the greater role being played by universities and consultants in the conduct of VET research. A similar picture can be shown for the organisations involved in conducting research on the basis of public-competitive funds.

Table 7: Organisations conducting commissioned research

Organisation conducting research 1992-1996	Percentage of all commissioned research
Commonwealth/State authority	9
VET provider	17
Consulting organisation	26
University	40
All others (incl. not clear)	9

N = 187

4.3.5 Geographic location of research

It was felt important also to consider the geographic spread of the organisations that were responsible for the conduct of the research. Accordingly the home State of the organisation was also recorded. Two issues needed to be dealt with here. Overall, research activities were spread across States and Territories in a fashion roughly similar to their population size, when allowance was made for the work of the NCVER (which was, for obvious reasons, not categorised as South Australia). Not surprisingly, there is a tendency for smaller States and Territories to be slightly over-represented as even a small research effort is balanced against their low population.

4.3.6 Sites in which research is conducted

The data reported above have shown that the nature of research activity has changed substantially during the course of recent years. It is reasonable to assume that there have also been changes in the *locus* of the research. In particular, the changing policy climate in the VET sector would suggest that a shift in emphasis away from the classroom might also be observed.

For that reason, then, the site in which the research was primarily conducted became a matter of interest as well. As with many of the factors being addressed in this study, it was necessary for the researchers to infer the site in many cases and in many more, the site could not be identified. Further, a number of studies involved multiple-sites and so wherever possible, the primary site is reported. Despite these limitations, some clear patterns emerged.

Table 8: Primary sites in which research occurred

Primary site	Percentage
TAFE colleges	31
Workplaces	8
Other classroom settings (incl. private providers)	10
Multiple sites	20
Other	31

N = 351

While very little research appeared to have been conducted by enterprises or directly funded by them, workplaces have increasingly been represented as the site within which research occurs (from approximately 5% in 1988-91 to around 12% in 1992-96). This is paralleled by a concomitant decline in the proportion of research occurring within TAFE college settings (43%-25%).

It is notable, too, that very few studies involved private providers (6%) and that during the period under consideration, very few involved schools (3%). The research, which did involve private providers, was often conducted by individuals or organisations that were ex-TAFE staff.

4.3.7 The nature of the research activity

Overwhelmingly, the research activities identified in this study are most appropriately described as applied research and/or development. Pure, exploratory research was virtually never an appropriate description.

However, as noted earlier, these classifications rely heavily on the judgement of the present authors as few of the researchers responsible for the work had indicated that the research should be classified in any related manner.

Table 9: ABS classification of VET research

ABS research category	Percentage
Basic research	2
Strategic research	23
Applied research	63
Experimental development	12

N = 827

The small number of studies that could be classified clearly as basic research were conducted entirely by university-based researchers.

Within the domain of applied R&D, however, there was still significant variation among studies in their primary purpose and nature. A substantial proportion of studies were evaluations of programs or practices (37%)—often these were carried out as part of the implementation of various Commonwealth-funded VET initiatives, though similar situations also occurred with some State-funded programs.

The other significant category (28%) involved research activities which were those intended to inform the policy-development process. Such studies now represent the greater proportion of all research activities conducted within State training authorities (around 60% of those conducted in 1992-96).

Table 10: Purpose of applied research

Major purposes of applied research	Percentage
Evaluation	37
Policy development	28
Program improvement	12
Planning	15
Other	8

N = 521

It was notable as well that in recent years—though not in the 1988-91 period—research and development activities associated with the development of competency standards and VET plans (both national and State) became substantial areas of activity.

Local research studies

While some 205 examples of local research projects were identified, the information available about these was extremely mixed both in quantity and quality, and in only five cases was it possible to make any reasonable inference as to the source of funding for the work. Accordingly it is difficult to provide a great deal of useful quantitative data which describes this form of research. However, there are a number of observations that can usefully be made:

- Over 90 per cent of the studies appear to best classified as applied research.
- 65 per cent of the studies were involved with classroom-based programs; most of the balance were concerned with some other form of program operating within the institute/college.
- 68 per cent of the studies located appeared to be the responsibility of a single investigator.

The great majority of the studies located were the actions of individuals seeking to improve the operation of a teaching or other program with which they were involved.

In a number of cases, the work was completed in partial fulfilment of an initial teaching qualification in others it was part of an assigned job role.

Most of these studies appear to have been relatively brief in duration and to have produced either no published report or one that had only extremely limited circulation.

4.4 Major findings

There are several findings that emerge from the above results:

- The nature of activity within VET research is highly influenced by prevailing policy issues. Over the period of study, significant shifts in the balance of both the kind and focus of research and development activity has occurred which appears to closely parallel changes in the interests and priorities of funding bodies. On the one hand this suggests that the VET research community is highly responsive to the needs of VET policy-makers; on the other hand it also suggests that research activity has emphasised immediate needs—potentially at the cost of longer-term needs.
- There remains a need for more effective access to existing research findings. Indeed there appears to be evidence that improved communications about funded research and development activities within and between authorities would allow a much-improved use of public funding.
- Finally, the apparent lack of long-term, ongoing research programs raises serious concerns. Clearly funding bodies have a right to expect research to support their decision-making. However, if this is to be at the cost of inquiry directed to more fundamental and long-term issues then we run the risk of forever repeating basic errors simply because we don't know better.

Research database

Sample record

The research database will be published as a separate volume in 1998; this sample entry outlines the information to be included.

Record number	430
Title	Blurring the boundaries: TAFE and commercial colleges in the open training market.
Author	Anderson-D
Corporate Author	—
Journal Title	—
Source	—
Publisher	National Centre for Vocational Education Research (Australia) (NCVER)
Place of Publication	Leabrook SA
Publication Year	1994
Series	—
Abstract	This report compares and contrasts the major features of a selection of private and public training institutions and examines their changing roles, relationships and significance in the context of the emerging training market.
Descriptors	Private-colleges; TAFE-colleges; Vocational-education; Access-to-education; Business-education; Case-studies; Comparative-analysis; Competition-; Computer-science-education; Educational-planning; Educational-policy; Educational-quality; Educational-trends; Equal-education; Government-role; Information-dissemination; Institutional-characteristics; Institutional-co-operation; Student-attitudes; Tourism-;
Identifiers	Australian College of Travel and Hospitality; College of Tourism and Hospitality (South Brisbane Qld); Computer Power Training Institute; Outer Eastern College of TAFE (Vic); Royal Melbourne Institute of Technology. School of Business; Stotts Commercial College
Subject category	Curriculum-subjects-vocational-and-professional
Notes	249p.
Availability	ISBN 0863970877

Reference

ILO (International Labour Organisation) 1993, *APSDEP Thesaurus 1993*, Korea Institute of Technology, Seoul, Korea.

Chapter 5
Use of research by VET decision-makers

5.1 Introduction

In the research team's response to the initial project brief we emphasised the importance of linkages between research and the users of research. In that context, it was felt to be important to explore the issues raised in the brief from the perspectives of the decision-makers themselves.

The study reported in this chapter examined the use of research-based information by key decision-makers. The research team sought to identify key issues that might enable our understanding of this relationship to develop. In particular, we hoped that it would be possible to identify changed arrangements that would improve decision-making and/or research practice.

This study has emphasised the subjective experience of decision-makers and focusses on their perceptions, attitudes and experiences.

Our intention in this study was not only to examine current practice but also to consider how practices may have changed over the last five-year period. We had expected that this would provide an improved understanding of the interaction between decision-makers and research findings.

However, significant changes to structures and personnel in VET agencies throughout Australia have limited in some respects the capacity of this component of our study to highlight the usefulness of research over the time period which bounds the questions of interest. Simply, many of today's decision-makers were not in positions to judge or comment on activities within VET as recently as five years ago. Moreover, where they are in such a position, a common view has been expressed that the changes have been so great that it is difficult, misleading, or possibly wrong to make inferences about the effects of research alone on VET today.

For these reasons our data emphasises the current state of play and considers the significant factors that are influencing the ways in which VET research is impacting on decision-makers. The primary issues addressed in this research include the decision-makers' awareness of relevant research, the processes by, and conditions under which, decisions are taken and the accessibility of research findings to decision-makers.

5.2 Methodology

The primary data collection approach used in this study was that of semi-structured telephone interview. This allowed the interviewer some freedom to explore issues arising in the interviews, which had not been anticipated while ensuring that the overall structure remained constant across the sample.

The initial collection included senior and middle-level decision-makers in Commonwealth and State training agencies, key industry bodies, enterprises known to operate within the VET sector and a number of providers selected at random from amongst the public and private providers on State and Territory registers. In the case of large organisations, organisation charts provided by the organisations provided the starting point. An initial, stratified sample of 100 of these decision-makers was selected so as to balance the kinds of organisation, the levels of the decision-makers, and their geographic spread and attempts made to arrange interviews with those selected.

Because titles of office can be misleading, the method used for recruiting informants was one of referral from initial informants. Individuals in the relevant organisations who had been identified in the initial sample were asked to identify other individuals (both within their own organisation and external to it) who were involved in decision-making and who would be in a position to provide helpful input. This ensured that informants were individuals able to respond informatively to the questions.

After initial contact, a time was arranged with the informant for the conduct of the interview. Typically interviews were fairly brief with most completed within 15-20 minutes. The format of the interviews emphasised the nature and context of decision-making and did not emphasise research as a specific issue. This stratagem was deliberately chosen so as to ensure that any use or impact of research, which was identified, arose naturally from the context of the discussion rather than informants being led to a focus on research alone. Later in the interview informants were asked more directly about their use of research and their attitudes to it.

It was recognised that due to the nature of the positions being surveyed, many respondents would be unable or disinclined to participate and it was therefore determined that interviews should be continued until a total of 50 useable responses were obtained, provided that a reasonable balance across the sampling strata was maintained. Accordingly, due to unavailability and other difficulties, some cells were exhausted before a reasonable sample was obtained. Where this occurred, respondents were asked to nominate other informants at a similar level to themselves who might be available to participate.

Altogether, complete data was able to be provided by 50 VET decision-makers. The sample comprised two broad strata, and identified sub-groups within these as follows:

- Major decision-makers in VET:
  - senior/middle level bureaucrats in State VET authorities
  - senior/middle level bureaucrats in national VET authorities
  - senior bureaucrats in VET providers (e.g. institute directors, campus managers)
  - key office holders in business/industry organisations
- Key decision-makers in providing training:
  - middle level managers of provider programs (e.g. head of studies—hospitality)
  - human resource managers and/or training managers within enterprises (level reflects size of organisation; those with immediate responsibility)

As a result of the process of selecting informants described above, a wider range of levels of responsibility amongst decision-makers emerged than had been originally intended. Features of the sample, which are of interest, include the following:

- 36 per cent were classed as senior decision-makers, 42 per cent as middle-ranking and 22 per cent as lower-ranking decision-makers.
- 68 per cent of the decision-makers had not occupied the same or a similar position within VET five years ago and of these, 44 per cent had only commenced work within VET during that period. These figures include industry personnel whose roles had not previously been related to VET.
- 60 per cent of informants worked in a VET authority, 20 per cent in a VET provider and 20 per cent in other organisations.

Even with the precautions put in place to ensure that informants were able to respond usefully to the questions to be put to them, the information which was received was less complete than had been anticipated as a significant proportion of the decision-makers did not have a long-term involvement with VET or were relatively newly appointed at their current level. The result of this was that their ability to respond in any detail to many questions was limited by the extent of their familiarity with the issues.

5.3 Interview results

The most significant overall outcome was that direct awareness of research findings amongst key decision-makers was low. Many had little or no awareness of sources of research information and, especially in the case of more senior decision-makers, were unaware that research findings in any way impacted on their decision-making. It was evident, for example, that senior decision-makers frequently operated on the basis of briefing papers provided to them by others. These briefing papers rarely identified the source of the ideas or understanding which underpinned their advice and, consequently, senior decision-makers could not be aware of any influence research—or any other source of knowledge—might have had on the decisions they were being required to undertake.

5.3.1 Awareness

While overall reported awareness was low, it was clear that there was a gap between the reality of the situation and the perception of many decision-makers. As noted above, most senior decision-makers (and many at lower levels) relied heavily on advice and recommendations provided to them from other staff within their organisation. Interviews with middle-ranking policy advisers commonly found that awareness of research findings generally—though less often of specific pieces of research—formed a noteworthy component of the basis of their recommendations and advice to more senior staff, committees and the like.

One commented, *'my job is to translate research findings into a form of words that [the board] can understand. They really don't like a lot of jargon'.*

In general, it was found that middle-ranking decision-makers had a higher level of awareness of their actions and advice being influenced by research than was the case of other classes of informant.

Table 1: Proportion of decision-makers indicating awareness of research as an influence in decision-making

Level of decision-maker	Percentage
Senior	17
Middle	43
Lower	27

N = 50

Indeed, while few decision-makers at any level were able to point to any specific piece of research as having influenced one or more recent decisions or actions, both middle-level decision-makers and those involved in direct provision (these were often classified as lower-level) were more likely to have a broad understanding of the body of research literature. This was lower amongst those more recently recruited into VET from other industries and those from industry whose primary role was not concerned with VET.

Decision-makers were unable to indicate many instances in which they could identify direct links between specific research activities and particular decisions taken or courses of action followed. Where they were able to do so (five instances), in each case the research activity had been one in which they (their organisation or themselves) had had direct involvement.

Further, respondents who had indicated some level of awareness of recent VET research activities were asked to identify the source of that knowledge. Significantly, this came most often (53% of 15 respondents) from their own or a colleague or subordinate's involvement in a specific research activity. For example, one informant was aware of recent research into flexible delivery because one of her staff had recently attended a focus group that was looking at the administrative repercussions of the approach.

The second most common source of knowledge (one third of respondents) was from reports in VET magazines such as *Australian Training* or *Australian Training Review*. Other industry and/or professional magazines or journals provided a lesser source of information. Relevant comments included:

> *We have briefing sessions from time to time on what's going on and I heard about this project from one of those.*
>
> *Whenever I can I read the latest magazines to find out what's going on.*
>
> *I used to have a fairly good idea of what everyone was doing but the newsletters and things like that don't seem to be being circulated any more. I feel really out of touch.*

Even where decision-makers reported that they had been aware of research-based information relevant to a particular decision, they emphasised that such information was only one factor in reaching a decision. Political and strategic considerations were regarded by two-thirds of respondents to play the greatest role. Research information was most often (in just over half of cases described) used to support or validate decisions taken on other grounds.

5.3.2 Decision-making processes

When asked about the decision-making processes and the timeframes within which they operated, decision-makers typically indicated that they were required to make decisions within very short periods of time and that this often precluded the opportunity to engage in extensive searches for research data. Rather, decision-makers reported that, for over 60 per cent of decisions they had been involved in taking in the previous month, they had relied at least 'substantially' on their own knowledge and experience or on that of their colleagues and subordinates.

This often relied on what has been described earlier in this report as 'ideas in good currency'. The informants commonly described this form of knowledge as 'well-known', 'common practice', and similar phrases without necessarily recognising what might have been the origin of that knowledge. Some examples can illustrate the kinds of processes that are operating:

> *We knew from our earlier training as teachers that it was important to build clearly defined criteria into assessment systems to ensure that the results were valid.*
>
> *I didn't have time to look for information which would help me to make the decision so I called in some of my colleagues and we batted around a few ideas until a clear picture developed.*

To explore further what sources of information decision-makers most typically relied on and wanted, they were asked to identify the kinds of ways in which they would prefer information to be presented to them.

Primarily, the information needs of decision-makers were for simple, pre-digested information emphasising outcomes rather than the processes used to produce the findings. Preferred sources of information (more than one was nominated by most respondents) included:

Table 2: Preferred sources of information

Sources	**Percentage**
Simple (one to two page) summaries of findings	86
Brief, periodic briefings	34
Short articles in magazines	27
Targeted summaries on specific issues	15

Informants generally indicated that they were not particularly concerned with the origin of the information, for example whether it was based on research or other sources—they assumed that only credible information would be provided—but wanted to know what it meant for them. As one respondent put it, *'I'm only concerned about the bottom line. As long as I trust those who are advising me, I don't care where they got their ideas from'*.

Fifty-eight per cent of the sample had read one or more research reports within the last few years. Of these, most (almost 80%) felt that the reports were too difficult to read. Among the difficulties they encountered were:

Table 3: Difficulties with research reports

Difficulties	**Percentage**
Too long	72
Too complex	59
Main findings were not clearly spelt out	41
Policy/practice implications not identified	35

These findings are consistent with many other reports on research utilisation and dissemination which emphasise the importance of direct, clear and specific communication as that most desired by users (for example, see Morris & Spark 1997 for a recent example).

5.3.3 Access to, and use of, research

Of those decision-makers within public agencies who had experience of the VET system longer than five years, over half also commented on the reduced availability of research information that had occurred during that period. They indicated that the reduction of research branches which has occurred in most public authorities had served to distance the research from the decision-makers and that internal clearinghouse functions performed by those branches and by central libraries had ceased. Some of the comments on these matters were:

> *We used to have our own research branch and they kept track of what was going on in universities and elsewhere. They'd send us summaries and run workshops to keep us up-to-date.*
>
> *I used to be able to get things I wanted on inter-library loan but the main library's been closed and I can't do that any more.*
>
> *When we need research to help with a policy issue we've got to put it out to tender. This is always a lengthy process and often we need the advice more quickly than that.*

A number of decision-makers (particularly amongst those at more senior levels) were critical of the timeliness of particular research reports of which they were aware. They observed that, given the short timeframes in which they characteristically operated and the rapid changes in policy which have been operating, research activities appear often to produce results 'too late' to influence decision-making. While this belief was based primarily upon information provided by others, where decision-makers had direct personal experience of particular research activities, they were able to provide explanations for this outcome:

> *The issue was more complex than we'd imagined and we had to ask the consultant to redesign the study.*
>
> *By the time the tendering and contracting was completed and the work had begun, the program funding had been dropped in the budget.*
>
> *The final report was held up for some months while states argued over what should be included.*

A further factor which respondents reported as limiting the usefulness of research findings was the corporate culture operating in many sectors of VET. They felt that there was an expectation in many organisations that VET decision-makers were obligated in some manner to take responsibility for their own decisions and that seeking to research an issue prior to a decision was, in some form, a means of delaying or postponing decisions rather than of improving the final outcome. As one respondent put it:

> *When I first came into the job, I'd often suggest that, perhaps, we ought to do some simple research and use that to inform our decisions. But I soon learnt that my bosses saw it as a 'cop-out' so I don't do that any more.*

5.4 Major findings

The strongest message from the interviews was the extent to which those who make decisions in VET are likely to be unaware of the research that forms the (indirect) basis of their decisions. It is most likely that, even when the advice on which those framing policy has a strong basis in research, this fact will not be understood by the decision-makers.

A second, and related, message, is that much decision-making in fact has not used research: the volatile policy climate in VET and the time pressures on key players have all mitigated against the considered use of data as a component of decision-making. As a result, decision-making processes do not pay sufficient attention to the existence of important research-based information.

If more effective use is to be made of research, the awareness and accessibility of research findings will need to improve. These have decreased in recent years, and more recent entrants to the system are not aware of significant sources of information or of how to access them. Moreover, until recently, little attempt has been made to fill the gap left by the demise of research branches in State training authorities and to collect and summarise major research findings in ways which decision-makers find most useful. There are good grounds for believing that it will be necessary to ensure that such summaries are regularly produced, up-dated and made widely available as the system continues to decentralise.

Reference

Morris, G & Spark, C 1997, *Getting the message out*, Vocational Assessment Research Centre, Sydney.

Chapter 6
The case studies

6.1 Introduction

In the research team's tender accepted by the funding body, it was proposed that 'some half dozen case studies' would be undertaken. In the event nine have been carried out. They illustrate, in their real world context, major aspects of the Impact Project emerging from the literature review, the symposium, the quantitative studies and consultations with key stakeholders. The case studies complement these other approaches to the research question through providing a richness of detail that cannot otherwise be obtained.

This chapter is organised in four sections, of which this brief introduction is the first. The second section considers why case studies were included within the overall project, why the particular case studies were selected and how the case study aspect of the project was undertaken. The case studies are reviewed in the third section. The fourth section considers some of their features taken together which are relevant to the Impact Project. Each of the nine case studies will be reported in a forthcoming volume.

The research team is most grateful to the authors for their valuable contribution.

6.2 Conduct of the case studies

6.2.1 An essential element of the impact project

The research team regards the case study component as an essential element of the Impact Project. In particular, the survey material and the case studies taken together, allow for a more complete understanding than can either alone. The surveys allow us to become familiar with a wide range of material, to quickly get to the common elements and to make generalisations about the project as a whole. However, analysis based on surveys tends to be shallow compared with that for case studies. Case studies allow for a much greater depth of understanding. Contact can be made with the parties involved and complex relationships can be more fully explored and understood. However, it can be difficult to generalise from case studies, particularly when the specific research projects and their contexts are very different. Thus, surveys and case studies build on the advantages and offset the disadvantages of each other.

6.2.2 Case study selection

The selection of the particular case studies depended upon three main factors. First, a very large number of case studies would be needed if the diverse range of factors which can influence the impact of research in VET in relation to policy and planning, practice and performance and community relations were to be properly represented. This could not be achieved if six case studies were included in the report or indeed with nine, the final number. Rather than seeking to choose a 'representative' sample on which to base generalisations, our approach was to select a 'purposeful' sample to maximise variation (while covering the three areas specified by the funding body). Purposeful maximum variation sampling allows us to capture and describe 'the central themes or principal outcomes that cut across a great deal of participant or program variation' (Quinn Patton 1990). Taken together, the nine case studies illustrate the great diversity of circumstances in which, and ways in which, research can have an impact on VET.

Secondly, there was the matter of the availability of researchers to undertake the case studies within the relatively brief time available for the Impact Project. Two of the case studies were undertaken by members of the research team, while another was undertaken by a person who works at the VET Research Centre at the UTS. A further three were provided by participants at the symposium and one other originated in a suggestion made by a symposium participant. The remaining two case studies were identified through discussions following conference presentations on the Impact Project. The case studies generally did not commence until after the February symposium—although they drew on research projects undertaken previously—and most were completed by about the end of August 1997, a maximum of six months.

The third factor affecting the selection of case studies related to the funding body's indication that it was particularly interested in the impact of VET research in the three areas of VET decision-making and action. Of the nine case studies, two relate primarily to policy and planning issues at the level of national, State and Territory policy; four relate to decision-making and action at the provider level; and three focus primarily on community relations aspects.

6.2.3 The case study process

A framework for approaching the case studies was developed by the research team to which each contributor was asked to adhere. The purpose of the framework was to facilitate comparability and subsequent discussion. It was appreciated that the case studies could vary and authors were free to add or elaborate particular matters where they felt it important to do so. Given that many of the authors had been closely involved in their case study, the research team asked that, wherever possible, contributors draw on external supporting evidence, including from users, in relation to the matters they considered and the conclusions they drew. A copy of the background paper prepared for the symposium in February and given in appendix 1, was also provided to contributors.

It was intended that the case studies would report:

- the context in which the case study occurred (covering such matters as the background to the case study, the organisations and other stakeholders involved, the research methodology and aspects of the context which might bear on the degree to which the research was used or had influence)
- the decision-making organisation and its processes (including its activities, the decision-making context and processes relevant to the case study, the organisation's culture and its approach to research, generally and specifically in the context of this study)
- relevant research (including what was available and how it was used, details of the research which in this instance did or did not have use or influence on decision-making, what decisions or attitudes were affected and how (or why not), including the timescale of any use or impact)
- factors which appeared to contribute to, or act as barriers to, the use of research or its having an influence on policy and planning, practice and performance, or community relations as appropriate

After receipt of the drafts of the case studies, workshops were held in Melbourne and Sydney. At the workshop, each paper available at the time was discussed individually, and then the overall themes, which emerged across the group of case studies, were identified and discussed. Contributors had the opportunity to revise their case study in the light of the discussions at the workshop, if they wished. Most contributors did so.

6.3 The nine case studies described

In this section the case studies are considered individually in the following order: those concerned primarily with the impact of research on policy and planning; those concerned primarily with decision-making and action at the provider level; and finally, those case studies which focus on community relations aspects. Some of the case studies report research which may have had an impact in more than one of these areas; the degree of impact is often difficult to estimate precisely; and policy and planning implications at the level of individual training providers may not be clearly separable from practice and performance there.

6.3.1 A research contribution to user choice policy-making (Chris Selby Smith and Joy Selby Smith)

This case study examined the impact of the authors' work,[15] undertaken in 1996 and early 1997 for the Australian National Training Authority (ANTA), on the development of User Choice policy-making.

Background: User Choice grew out of concerns about the progress of training reforms known collectively as the national training reform agenda. Following a review of aspects of the training reform agenda by the Allen Consulting Group (1994), the ANTA Board put to the ANTA Ministerial Council (MINCO), in September 1994, proposals to move towards a more market-based or choice system for allocating VET funds, to be known as 'User Choice'. MINCO accepted the proposal and also agreed that a series of User Choice pilots, in which firms choose the provider of the off-the-job training for apprentices and trainees, be undertaken in 1995.

In fact, the project did not come into effect until 1996, by which time the Howard Government had been elected, and ANTA ministers had supported a proposal to introduce new arrangements for traineeships and apprenticeships incorporating User Choice (in May 1996). Subsequently, a detailed program of work was set in hand, leading ultimately to the development of a policy framework for the 'New Apprenticeships' arrangements including User Choice. ANTA ministers endorsed this policy framework in May 1997.

The research: The authors forwarded five reports to ANTA between July 1996 and March 1997. They included: a national evaluation of the first stage of the 1996 User Choice pilot project, in particular, responses to a survey of employers' attitudes to User Choice at the outset of the pilot project (July, 1996); two reports identifying the policy issues that needed to be resolved if User Choice was to be introduced on an effective and sustainable basis by January, 1998, (August, 1996); a report on two specific issues which ministers requested ANTA to investigate further—third party access and separation of roles (March 1997); and the second stage of the 1996 User Choice pilot project, an evaluation when outcomes were known. The second evaluation included the results of a survey of enterprises after they had participated in the pilots and reports on 15 pilots studied in detail (April 1997).

The research provided new information, packaged 'old' information in new ways, providing new insights on aspects of User Choice implementation; and provided information, both 'old' and 'new' to new audiences. Even though User Choice had been on the policy agenda for at least two years prior to the commencement of the consultancy, 'there was a widespread lack of understanding of the objectives of User Choice and the essential elements that defined [it]', and of the breadth of issues that needed to be addressed if User Choice was to be implemented in an effective and sustainable way. There was little understanding of how User Choice might actually operate and of employer, trainee and provider responses to the initiative.

The decision-making setting: The framework described by the ANTA agreement constituted the decision-making setting for User Choice. (The details of the ANTA framework are described in the report of the case study.) The authors argued that within this framework features in three areas—the formal policy process; the distribution of power among the parties to the ANTA agreement; and the assumptive worlds of the key players—determined decisions and the use and influence of research in reaching those decisions. In VET, the decision-making setting is described as complex, complicated, dynamic and contested.

Use and influence: The five reports had very different patterns of use and influence. The two reports on User Choice policy issues were used as direct input into the preparation of the *Report to the ANTA Ministerial Council on the implementation of User Choice* (which included a Statement of User Choice Policy) prepared in the ANTA office which ministers endorsed at the September 1996 MINCO meeting. In that context the research was used for four main purposes:

- the research consultancy provided a clarification of User Choice objectives. In the authors' consultations with State and Territory training authorities it was clear that officials did not have a clear understanding of the purposes of User Choice
- the consultancy defined more precisely the key elements of the User Choice concept. There was no common agreed definition of User Choice and different parties had a very different understanding of what the concept meant
- the research consultancy identified the key issues to be resolved if User Choice was to be implemented on an effective and sustainable basis. These embraced a wider range of factors than had been perceived by national, State and Territory policy-makers at the outset of the consultancy
- the research was used by the researchers in speeches and other presentations and in consultations with other researchers working on aspects of VET policy including access and equity

It is argued that the reports also had influence:

- the influence of the reports can be traced in the improved and more consistent understanding of the User Choice concept and of the issues that needed to be addressed if User Choice was to be effectively implemented. The consultation process was an important means of spreading this influence even before the reports were finalised among the States and Territories and perhaps even within the ANTA office
- the authors said that 'our words' appear in ministerial speeches and in documentation distributed by ANTA and some training authorities to the wider VET community which, arguably also enhanced the common understanding of the User Choice concept
- presentations by the researchers might also have some influence but such influence, if it does occur, is likely to be diffused and is difficult to assess

As to influence on the national VET system, that is more problematic. Most training authorities are at best luke-warm about User Choice, and NSW has reserved its overall position. Furthermore, ANTA's role in User Choice implementation has now been severely limited. MINCO decided in May 1997 that the State and Territory governments would be responsible for the implementation of the New Apprenticeships and that ANTA would have a lesser role than envisaged earlier. This outcome was the decided preference of the States and Territories and reflected developing Commonwealth-State/Territory tensions.

Concerning the report on third party access and separation of roles, the report of the ANTA Board's deliberations and the way the MINCO decisions on these issues were formulated would suggest that the authors' report was not used.

The authors' view was that this lack of use and influence in the User Choice policy development context reflected a range of factors. Above all, ANTA made the judgement that these particular matters should not be pressed to finality at that time: the priority was to reach agreement on New Apprenticeships; and third party access in particular, raised issues that might jeopardise agreement.

However, the consultancy report and the associated consultation process did have some influence in that it raised the profile of these issues, even if they had not previously been close to the hearts of training authorities. The separation of roles is one of the 18 issues listed in the ANTA strategy agreed by ministers in May 1997 and it is understood that ANTA drew on the consultancy report in developing that part of the strategy document put to MINCO. Further work on this matter has been set in hand by individual States and Territories. These developments confirm the case study authors' view that policy-making can be a long-term process and that the influence of research studies can be cumulative. They can contribute to raising the awareness of the issue; to bringing the idea onto the public policy agenda; and to their achievement of the status of 'ideas in good currency'.

Concerning the national evaluation of the 1996 User Choice pilot projects, it is not clear if or how the report of the first stage of the evaluation was used. Of course, the report had no influence on national policy-making as the decision to implement User Choice in the context of the Modern Australian Apprenticeship System (MAATS) had already been made by ministers and announced. There was a shift in officials' perceptions on the relevance of User Choice in action in the period after the release of the first report: there was a diminution of the earlier, narrow conception of User Choice; and choice of provider, in particular, became part of the accepted perspective. Arguably, the report had an influence on this changed perspective.

In relation to the second stage evaluation report, it would appear that informal feedback has been 'extremely positive'. However, the policy development phase nationally had largely been completed by the time this report was submitted; thus the evaluation report would not have had any impact (use or influence) on national policy-making.

There has been some interest in the evaluation at the State and Territory level, although the level of interest varied significantly from State to State, not least according to the level of interest and support for User Choice overall. Some project co-ordinators within provider organisations also sought informal feedback on the pilots with which they were involved.

Thus the evaluation report was used by some. As to influence, that is more problematic: it may be too early to tell, given that User Choice is yet to be implemented in any significant way in those States and Territories that have 'signed up'.

Factors affecting the use and influence of the research: The three sets of User Choice reports have had very different patterns of use and influence. The authors argue that these different patterns had value in that they assisted in the identification of the salient factors influencing impact.

The case study identified four main factors as having contributed to the use of the policy issues reports and their having an influence. First, the reports were commissioned: in place was a strong linkage between the research and policy-making settings. When commissioned, the research was intended to serve a purpose; commissioning also meant that a specific audience was identified for the research results.

The second factor contributing to the use and influence of these reports was the marked change in the political/policy development climate. User Choice was less central to ANTA's concerns when the consultancy was first advertised, although there was the intention to expand the pilot project in 1997 given the 1996 experience. Then it became significantly more central, with a much tighter timetable, when the new government set in hand processes to reform the apprenticeship and traineeship system incorporating User Choice approaches. Effectively, it was a new policy area and there was, comparatively, a policy 'vacuum'. The reports helped to fill it in the apparent absence of other work.

Thirdly, the willingness of the researchers to adjust the consultancy's focus, structure and timelines meant that their work remained timely and relevant to ANTA's changing needs. The researchers responded to these requirements and proposed adjustments and variations in the light of them. If the consultancy had been conducted according to the original timetable, and if an 'innovative' response to yet another contraction in the timeframe had not been proposed, the reports would have been 'too late'.

Finally, the researchers provided feedback about the progress of the consultancy and the consultations (which were part of the process) through maintaining regular contact with the client/policy-maker. This feedback was seen to be important in a situation that lacked a settled framework, where there was a contest of ideas and an urgent need for ministerial resolution.

The authors also argued that there were a range of factors that acted to limit use and influence, at least to date.

With respect to the third party access and separation of roles report they are specific issues. The report was seen as being contentious and judged as not worth pursuing if it jeopardised the achievement of wider objectives, or could be pursued in other ways.

In relation to the evaluation reports there was a matter of timeliness. The incoming Howard government had proposed a revision of the apprenticeship and traineeship system incorporating User Choice and the decision was already made at the MINCO level, even before most of the User Choice pilots were underway. Subsequently, when the evaluation was complete, policy-makers, who generally are much less interested in the details in any case, had moved on to other issues.

There is a more general point which can be seen to have contributed to or limited use and influence, variously, depending upon the circumstances: there are interactions between VET policy processes and the broader policy approaches and stances of each of the parties to the ANTA agreement. User Choice is a market-based reform and such approaches command very different levels of political and bureaucratic support in different jurisdictions. The values and preferences of those involved in the decision-making processes of the different jurisdictions affects which research is used or not used.

At the workshop: Three additional points were emphasised at the Melbourne workshop.

First, it was noted that much of the impact of research is cumulative, rather than being dependent on a single study. For this case study, any impact of the User Choice consultancy was seen as being built on previous work, including the Allen Consulting Group's work, the Hilmer Report and one of the author's previous work on the Hilmer Report. In turn, the Allen Consulting Group report drew on ideas that had been debated on and off over many years. The case study suggests that, over time, research studies can, in aggregate, help raise awareness among relevant decision-makers of particular issues, bring ideas on to the public agenda and help them to achieve the status of 'ideas in good currency'. Where the ground is prepared change is more readily achievable.

Secondly, the role of individuals and their relationships in effecting the impact of research should not be under-estimated: in individual training providers or enterprises; in federal, State or Territory bureaucracies; in ministerial offices; in central agencies as well as in training authorities; and among the industry bureaucrats. The researchers argued that:

> *where there is a willingness and capacity on the part of people to interact with and learn from research then it is likely that the use of research will be greater and the process of thinking through the issues will be enhanced, even given the structural distribution of power.*

It appeared that certain individuals could be important determiners of research's impact in relation to particular research studies, rather than the same individuals being important determiners of impact across the board.

Thirdly, it was emphasised that in considering the relationships between research and policy-making it is important to recognise that some functions are integral to the policy process. 'The conception of what is important to be done, how best to do it, and how to integrate research outcomes into ongoing policy development, including the continuous process of discussion and negotiation with key stakeholders cannot, in the last resort, be outsourced. It is a core function of the organisation, so long as it seeks more than merely a reactive, administrative role.'

6.3.2 A research and development strategy for VET in Australia (Geof Hawke and Rod McDonald)

This case study considers the impact of the report *No small change: Proposals for a national research and development strategy for vocational education and training in Australia* (McDonald et al. 1992).

Background: This research took place at a time during which all Australian governments had agreed to work towards a common approach to vocational education and training, and at which, in retrospect, the ground was being laid for the subsequent substantial changes in VET policy.

However, it was recognised by all parties that vocational education and training had a poor research base and was ill-equipped to support the expected developments. Moreover, general educational research was seen to be a significant activity of public education authorities and represented a not insignificant component (in dollar terms) of the R&D activities of Australian universities; yet there was a perceived lack of impact of this research on education policy and practice. The committee which decided to fund the research (comprised of representatives of all Australian governments) was convinced of the need for a national strategy for R&D. For these reasons, a national review of R&D within the area of vocational education and training was commissioned in 1992.

The research: The research involved analysis of the research literature, information collected from a search conference, interviews and submissions, and subsequent analysis and further consultation.

The results of the research confirmed the poor position of R&D in vocational education and training from both a quantitative and qualitative point of view. In terms of resources, it was reported that, whereas the VET sector accounted for 28 per cent of all recurrent expenditure on education, VET research accounted for only 15 per cent of educational R&D expenditure. R&D expenditure represented only 0.22 per cent of total expenditure in vocational education and training, whereas educational R&D expenditure was 0.35 per cent of total expenditure on education. The report also concluded that the current research effort was fragmented and that links between research and policy and practice were weak, with little fundamental and general-issues-based research in vocational education and training and no strong critique of vocational education and training policies and programs.

The report, *No small change*, made suggestions relating to:

- establishment of a research council and priority areas
- establishment of national centres
- increased funding of research
- establishment of scholarships

Use and influence: The outcomes of this review have been very positive, with essentially all of the suggestions in the report being adopted within two to three years. In addition to these direct outcomes, the report also had a less direct influence in driving the establishment of research programs in several universities, and was often described as 'required reading' for VET researchers and those developing policy on research.

Factors affecting use and influence: Three main factors affected the impact of the research. First, the research was undertaken in Australia at a time when funding for all aspects of vocational education and training was being reviewed and increased. The case for R&D still needed to be made, of course, and there was still competition for funds but the allocation for increased R&D came from increased funds not from the reallocation of existing funds. However, it could fairly be said that those responsible for the allocation of funds were receptive to the findings that the financial support for research and development was inadequate, and were ready to allocate funds if a well-argued strategy was proposed.

A second factor related to the likelihood of adoption of recommendations that are fundamentally dependent on increased funding. This was aided by the report being addressed to a single agency with power to respond, rather than to a large number of agencies with different responsibilities. In a federal system, such as Australia's, this can be difficult to achieve unless there is a clearly authorised national agency which can take action.

The third factor has been described in the case study as 'the power of a good picture'. In the years following the publication of the report, a particular pie-chart figure (which dramatically showed the proportion of expenditure spent on R&D) has been referred to countless times by a number of people responsible for framing policy, and there have been suggestions that it served as a powerful image for the allocation of increased funds.

6.3.3 The impact of research on the Aboriginal Rural Training Program (Geoff Creek)

Background: This case study is concerned with the impact of research on academic developments at the Murrumbidgee College of Agriculture in the Riverina district of New South Wales, specifically the development of the Aboriginal Rural Training Program—'a very exciting voyage of discovery for us'. The Murrumbidgee College of Agriculture, located at Yanco, NSW, is one of two providers of farm-based residential vocational education and training that are operated by the NSW Department of Agriculture. The operational budget and permanent staff of the college are provided by the department from the consolidated fund of the NSW Government. In addition, the college can compete for external funds for a range of programs, including the Aboriginal Rural Training Program (ARTP). The ARTP commenced in 1989 as a result of requests from the Commonwealth Department of Employment, Education and Training (DEET) and the Aboriginal Development Commission. The ARTP is managed as a fully self-funding unit of the college providing accredited courses in collaboration with Aboriginal and Torres Strait Islander (ATSI) communities, with a wide range of ATSI organisations in NSW and elsewhere in Australia, and other organisations that operate in support of VET for Aboriginal and Torres Strait Islander people.

The decision-making setting: The college has developed a collaborative approach with Aboriginal communities in terms of both developing and delivering VET programs, both in ATSI communities and at the college. The college has sought to actively investigate and research the VET needs of ATSI people in collaboration with their communities. The training providers and those who participate in the programs have become equal partners in interactive research, in investigation, in implementation and in evaluation of the ARTP. Creek argues that the training providers and participants 'have established a VET partnership which has resulted not only in the development of new accredited courses, but also new methods of flexible delivery of VET that meets the needs of rural and remote Aboriginal and Torres Strait Islander people and communities'. Creek emphasises that the training providers and the participants have demonstrated a strong working commitment to research, not only in relation to practice and performance, but also in relation to policy and planning. It can also be argued that their practice and performance has influenced community relations, evidenced by the strong support for the programmes from ATSI people and their organisations, including from interstate and at national level. In 1996 one third of the graduates from the college were Aboriginal people though the program had only commenced in 1989.

Research: The college uses research in a number of ways in support of ARTP. First, use is made of quantitative data available from the ABS, the NCVER and other government agencies. Creek argues that this information 'is very useful for planning and policy development as well as improving practice and delivery of VET'.

Secondly, qualitative research methods are frequently used, involving structured and unstructured interviews, surveys, discussions and meetings with ATSI people, communities and organisations. For example, after developing and delivering the initial ARTP at Menindee and Wilcannia external education consultants were employed to undertake a quality assurance survey with participants, the results of which were made available to the funding body and also to the course participants and their communities. Creek argues that 'the findings and process of this initial research have had a very significant impact on the ARTP and have "set the stage" for on-going and interactive research, investigation and collaboration' between the college and ATSI people and communities. It is emphasised in the case study that it is critical 'to ensure that the research that is undertaken is in partnership with ATSI people and organisations. The research methodology must be inclusive and involve careful consultation and negotiation as the results must have joint ownership'. Creek argues that continuing attention needs to be paid to cultural issues and the need for self-empowerment and control by indigenous communities.

Thirdly, some of the research is oral, centred around discussion and negotiation. The outward client focus has meant that college staff have developed their negotiation and research skills; and this was judged to be essential for the success of the ARTP.

Fourthly, the College found that 'the majority of potential students had had negative educational experiences in the past at both secondary school and post secondary school level' for example, in relation to (ir)relevance of course content; the learning environment; teaching strategies; and (in)appropriate behaviour of teaching staff. As a result of these issues not being addressed adequately in their previous educational experiences ATSI students had previously often not been willing to attend formal classes and therefore did not complete the course. These and other comments made by potential clients raised the awareness of College staff to 'the need to address a culture that required a different educational approach to that traditionally experienced by the college. Getting training into communities was dependent upon close consultation with the communities during course design and development'.

Impact of research: The case study argues that the findings and the process of the early ARTP research had 'a very significant impact' on the ARTP and set the stage for on-going and interactive research, investigation and collaboration by the college and ATSI people and communities 'to ensure that the ARTP continues to meet the needs of communities and individuals'.

Creek emphasises that a major shift occurred in staff attitudes as a result of the research, negotiation and interaction: he identified 'a yearning to discover, to learn what are the appropriate methods of delivery and what are the impediments to better training'. He noted that college ARTP staff who have a deep commitment to the program ('driven by their love of learning/teaching and a desire to assist Aboriginal communities') sought out research materials to enable them to do a better job. It became obvious from the negotiation, consultation and research that teaching strategies and learner activities must be appropriate to the learning styles of students if effective learning is to occur—Creek argues that the college learned that ATSI people 'often have a preference for a learning style that is different from that delivered to other students'; for example, greater support for group work; learning by observation rather than by reading textual materials; learning by trial and error; and learning something through practical hands-on training.

> *This continuous research and review means that investigations and inquiry are collaborative, both internally between staff as well as between staff and community organisations and members. Thus the findings of a training needs analysis are achieved by consensus between the college and the community in that the curriculum, delivery mode and methodology, training locations and timing are all negotiated and agreed to by everyone.*

Creek also emphasises that the training decisions made are flexible: they can be, and are, renegotiated by the ARTP co-ordinator and community representatives when needed.

> *This active training culture generates an attitude of continuous improvement and a strong desire to analyse and monitor training programs and to develop a better understanding of policy and planning issues that have an impact on their work.*

Factors affecting use and influence: Creek argues that the case study demonstrates the value of having VET research carried out within a similar framework to that of applied scientific research. Agriculture in Australia is an industry operating in globally competitive markets where there has been a history of research to improve the industry, and a range of linkages have been established between researchers and users. Agricultural research has come to be valued, not only by the researchers and the funding bodies, but also by the people, the communities and the industry that have been involved in the research and which have benefited from it. The NSW Department of Agriculture has had a long history of research and development, there is a supportive culture for research activities throughout the department, many senior officers in the department have a research background and possess attitudes which are supportive of research, and there is a research station at Yanco. The training needs analyses, quality assurance surveys, research projects and reports have come increasingly to be seen as essential tools, not only for the trainers, but also for the people and communities they are working with. This has resulted 'in a wider ownership and greater impact of research findings as well as a growing use and commitment to both the process and results of research' by both users and training providers.

At the workshop: At the workshop in Sydney where this case study was discussed four points were emphasised. First, it was suggested that the nature of the industry with its long history of linkages between researchers and users, the research culture of the department and the existence of an agricultural research station at Yanco were significant in the mindset of college staff, their willingness to adopt research approaches and the effective links which were being developed in the ARTP between research and use, between researchers and users.

Secondly, it was noted how the case study expanded the definition of research, how important college sensitivity to client needs, oral interactions and negotiation had been in designing and delivering the ARTP, and that the research had use, and apparent influence, at the level of national policies for ATSI people as well as at the level of practice and performance in the particular training institution.

Thirdly, the mutual nature of the relationship being established between users and providers was stressed, with the provider sensitive to the aspirations and wishes of the users while still bringing to the negotiations their own expert knowledge, skills and experience. Compared to the traditional supply driven model of VET provision there was greater emphasis on the demand side, resulting in a more equal balance of esteem and valued contributions to the training programme. In addition, a virtuous circle developed, in that the research results, approach and application became quite quickly an important part of the college's competitive edge in relation to alternative providers. Their success in attracting students from Aboriginal communities in Queensland, for example, led to 'a state of shock' in the Queensland agricultural colleges.

Finally, it was clear in this case study how important particular sponsors or champions had been, for example, in identifying the opportunity; developing and refining the overall approach and the detail of the ARTP; in recruiting, supporting and encouraging college staff; and in negotiating with outside bodies, whether in Aboriginal affairs, education and training, or agriculture.

6.3.4 The cross-sectoral experience: An analysis of credit transfer in Victoria's dual sector institutions (Richard Trembath)

Background: This case study examines the research on credit transfer in one of Victoria's dual sector TAFE and higher education institutions. The research was undertaken in 1995 and 1996 for the cross-sectoral project at the Royal Melbourne Institute of Technology (RMIT). The study was undertaken within the RMIT administration. Specifically, the case study explores what effect this research project had on decision-making at RMIT. Although the cross-sectoral project included Swinburne University of Technology and the Victoria University of Technology, other dual sector institutions in Melbourne, the case study is limited to the study of the impact of the research at RMIT. The project was half-funded by the Victorian OTFE, although the OTFE was not part of the project team or the reference committee.

The decision-making setting: The research project was established in a context which was conducive to organisational change at RMIT, when the former TAFE and higher education sectors of the institution were being brought together in a unified structure (from January 1996). Senior management envisaged that the project could contribute to an organisational objective of establishing an expanded role for VET research within the university and enhancing the institution's student recruitment strategies in both higher education and TAFE. For example, there had already been some interest at senior management levels in understanding more fully the nature of, and reasons for, intersectoral transfer 'motivated by a desire to enhance RMIT's recruitment strategies and ensure that high-performing TAFE students were attracted to RMIT's degree programs and, as importantly, ensure that students with a higher education background were attracted to RMIT's TAFE offerings'. At the level of middle or departmental management:

> *the motivation to carry out this research was less strong than the motivation to establish RMIT VET's bona fides as a practitioner of VET research . . . the ideal opportunity to 'put some runs on the board' in an area where RMIT's major role in the pathways project, dual sector nature, and the availability of the appropriate personnel, gave us an advantage.*

At the practitioner level the research 'was seen as following up some interesting lines of inquiry which had been exposed by previous investigations . . . [and] as having implications for a range of actual or potential student recruitment strategies'. However, Trembath emphasises that 'research is something fitted in, on the side or along the way, for many VET researchers'. The author of the case study was the manager of the research project, with overall responsibility for its conduct and the final report, and it had essentially been his proposal.

Use and influence: The author notes that the research project was used and did have some influence on decision-making at RMIT, commenting that 'generally speaking, VET research at RMIT has had a muted impact on decision-making' (and generally, that the impact was cumulative, rather than deriving from a single study or report). It would seem to have had some effects on institutional policies; on practice and performance; and on community relations. For example, it was widely publicised by OTFE and disseminated by RMIT in general forums such as conferences, workshops and articles. The research findings and the actions based on them were also used in targeted formats such as in general publicity on study opportunities at RMIT, in submissions to OTFE, in the university's submission to the West inquiry and in material prepared for RMIT's open day. However, the organisation was moving, in any case, in the general direction, which was eventually supported by the research, and the project findings built on previous research.

Factors affecting use and influence: Trembath emphasises that there were identifiable sponsors for the research and potential champions for its findings within the university. It was financially supported by the institution, which provided a ready potential market for the research findings, feedback to the project while it was being conducted and may have created an expectation of eventual use. The Educational Program Improvement (EPI) Group, which carried out the project, was established through integrating TAFE and higher education units within RMIT. The EPI Group was intended to provide more effective and efficient educational support services to the teaching faculties and a more integrated contribution to the implementation of the teaching and learning strategies adopted by the university. Thus, the research project was linked directly—initially, during the research project and at its conclusion—to the interests of significant decision-makers within the Royal Melbourne Institute of Technology.

Nevertheless, Trembath cautioned that the effects of the research alone can be overstated and that the influence of the research project and its findings are difficult to separate from the combination of other factors which were also operating at the time. For example, the finding in the report that there were deficiencies in the TAFE curriculum as a preparation for study within higher education 'has had an effect on decision-making at RMIT', but its independent influence is difficult to determine because 'at the time the report was being disseminated throughout RMIT and the training system generally, other factors were present which facilitated modifications to curriculum along the lines of the changes we recommended'. The author argues that the research report alone would not have influenced decision-makers, but it was 'part of a general atmosphere conducive to changes' in this area (and in this direction). In other cases, Trembath suggests that, although changes were made by RMIT in line with those recommended in the research report, 'there is no evidence, not even anecdotal, to suggest that the report influenced the relevant area within RMIT . . . except as yet another report that was part of the general environment . . . The changes would have been implemented anyway for the most part'. It was also noted that implementation of the recommendations in the report always involved consultations, often with a wide range of interests across the university; and that compromises and adjustments to the original proposals were frequently required in order to accommodate different interests and perspectives. This process inevitably brought into the decision-making a range of factors other than the research alone. With the benefit of hindsight the author of the case study concluded that the influence of the research could probably have been enhanced; for example, by wider consultation amongst senior decision-makers at the university prior to the commencement of the project, including 'to establish a formal framework within RMIT for the examination and/or possible implementation of the recommendations'.

At the workshop: In the discussion of this case study at the Melbourne workshop four other matters were raised. First, it confirmed again that 'influence' is not the same as 'use', especially when much of the effect of the research, as in this case, occurs through informal rather than formal channels. Decision-making is not wholly a rational process of inquiry, deliberation and decision; certainly it does not occur entirely in formal settings; and research may influence processes as well as outcomes directly. The researcher commented that the research findings 'were used in the decision-making processes as though it did have an impact . . . but, of course, it was going with the flow'. The implication was that the research findings may have had much less influence and been much less used if they had been suggesting a radically different direction for the institution.

Secondly, while there was use of the research findings inside RMIT, there may have been wider use elsewhere. Certainly there were more presentations given by the researchers outside than inside RMIT, RMIT research was visible to other researchers and OTFE publicised the project widely throughout the VET system in Victoria. However, this could be seen as consistent with RMIT's desire to raise its research profile and build its influence with its communities, including influencing the attitudes of potential students and their families.

Thirdly, the time scale of use was frequently short-term for the research findings, but the time scale of influence was probably medium term; for example, in the community, among other researchers or in terms of changes in RMIT's policies or practice.

Finally, the impact of the research may have been to prevent change as well as to encourage it. For example, the finding of the research project that most students articulating from TAFE to higher education considered that their decision was a good one, which was widely cited (both within RMIT and externally), influenced decision-making in a negative sense—as a justification for what had been done and support for not radically changing existing practices in the university.

6.3.5 Review of the TAFE NSW resource allocation model (RAM) and the impact on the Sydney Institute of Technology (Brian Jones)

Background: The Sydney Institute of Technology is the largest VET provider in Australia. The institute offers over 700 courses annually, of which approximately two hundred are exclusively offered by the Sydney Institute; enrols over 50 000 students per year across six campuses located within the Sydney metropolitan area; delivers over twelve million student contact hours each year; and has an annual operating budget of over $160 million.

The research is concerned with two independent, but related examples of research in VET. First, Jones considers the research carried out centrally by TAFE NSW in 1993 to develop and implement 'a new resource allocation model based on a micro-economic approach of input-process-output'. The research, influenced by moves towards increased accountability by the NSW government, investigated the costs involved in delivering NSW government-funded VET programs within TAFE NSW. The research, carried out by the TAFE NSW Planning and Evaluation Group, was concerned to provide information about 'variations that occurred when the costs incurred by individual institutes in the delivery of similar programs were compared'. The research was carried out in the corporate headquarters, but senior people in institutes often, as in this case, knew little about the research which was being undertaken until it was finalised: 'the research emerged with little warning to those outside and little involvement from them'. In the light of the research they had undertaken TAFE NSW developed a resource allocation model (RAM) that was to be the basis on which resources required by individual institutes would be determined in future.

Secondly, he considers the response of the Sydney Institute of Technology to the potential impact of the resource allocation model on its operations 'in an emerging managerial climate of increased accountability'. Here, Jones describes how the research process can assist in organisational development through a structured and systematic approach . . . The first responses from managers were *ad hoc* but, over time, 'they took on some of the characteristics of an action research model'—problem identification; the accumulation of evidence and inferences; generalisations regarding the relationship between actions and the desired outcome; and finally, the continuous retesting of these generalisations. The Sydney Institute's project is still continuing.

The decision-making setting: The resource allocation model was part of a wider change in the environment within which senior managers in the public system of VET in NSW operated. In the previous organisational culture it had come to be assumed that growth was the natural thing to achieve and that resources would be provided to sustain growth: 'a virtual honeymoon period for ten years'. Previously, 'managers had had no need to reflect on what was done and how well things were done at the institute'. Senior managers at the Sydney Institute realised that the potential impact of

RAM on the institute's activities could be significant: in particular its resources would be likely to be reduced and RAM 'would provide the basis for resource allocation negotiations and decisions between the central level of TAFE NSW and the institute'. The intention of TAFE NSW was that RAM would be used 'to develop a framework that would allow for a comparison of industry needs and the provision of programs in each institute's profile in terms of student contact hours, which were the funding unit'. RAM sent a clear message to institutes that in future there would be 'a more structured approach to planning compared to what had gone before'. At another level it could be argued that the research by TAFE NSW changed the nature of the debate with institutes and the grounds on which the arguments between them were conducted. If the Sydney Institute was to redress the balance or to contest the (unpalatable) conclusions it felt it had to undertake research itself. Of course, some other institutes adopted different responses, including the mobilisation of local political support.

The impact of research: Jones argues that prior to the emergence of RAM from TAFE NSW there had been, at the Sydney Institute, 'a lack of an organisational culture that used research, and information obtained through research, as a means of improving the organisation's performance and development'. One consequence was that there was only limited information available to determine the impact that RAM funding might have on the Sydney Institute. One outcome was a changed approach by managers in the institute, small at first but gathering strength over time, which placed more reliance on the generation of structured information, research training and organised secondments of teaching staff to research and development activities. Jones characterises this change as 'inquiry' in the sense of 'the intertwining of thought and action that proceeds from doubt to the resolution of doubt'. Progress was accelerated when senior executive staff in the institute publicly supported the internal research activities. The research activities were increasingly seen by teaching staff as valuable for their purposes, rather than a mindless imposition of further tasks of no utility to them.

Jones argues that, after a slow start, the research undertaken by the Sydney Institute has had both use and influence: in enabling the institute to avoid funding reductions from TAFE NSW; in improving planning and decision making within the institute; and in assisting teaching staff to more effectively achieve their objectives.

> *There is now an acceptance . . . that GPS [the global planning system] is a major tool in determining what courses individual faculties offer. Data is now available at the course module level . . . There is transparency in the sense that GPS data is freely available to staff at all levels . . . if State funding is increased or reduced then the impact can be immediately ascertained and appropriate decisions made. Planning cycles have been introduced and detailed retrospective and current program analysis is available as well as strategic planning considerations.*

At the workshop: In the discussion of this case study at the Sydney workshop five main points were raised. First, there was considerable discussion of the definition of 'research' and its boundaries. For example, what distinguishes research from development or innovation; and to what extent are new ways of thinking, using information or analysing data, if they are innovative for those individuals or in that environment, properly classified as 'research' or 'research and development' even if they might not be thought of as research or even development if they occurred at another time or place?

Secondly, the development of RAM seems to have encouraged, or even forced, the Sydney Institute to respond in ways it might not otherwise have done. Jones argues that it did so successfully, in that threatened funding reductions were avoided. The institute was able, by its response, to thwart the unwanted policy conclusions based on centrally organised research. From the point of view of the centre it could be argued that an increased focus on efficiency in VET's use of resources had been achieved. The lower priority which seems implicitly to have been accorded to equity compared to efficiency, as a result, does not appear to have been an explicit objective of the TAFE NSW research, although it may have been consistent with prevailing trends in wider policy arenas at both State and federal levels.

Thirdly, experience showed that the impact of the research was not wholly what had been expected initially. Jones argues that the Sydney Institute:

> *has not only been able to meet these external demands [that is, from TAFE NSW], but has also changed how it acts internally. These changes are characterised by the development of new competencies, skills and knowledge and a different attitude to the use of research.*

In his view, the institute has become a much more effective organisation as a result: it is able to respond to change much more rapidly and purposefully. Jones argues that this was an unexpected rather than an expected result of the RAM project; that it has developed consistently with the expectations derived from the action research model; and that this change is irreversible. He argued that research is now seen within the Sydney Institute, whereas it was not seen in this light before as 'the vehicle to respond to the impact of management and policy decisions, especially those from the external environment'.

Further, the case study underlines again the important role which can be played by sponsors or champions. The GPS was developing fairly slowly until senior executive staff at the institute publicly supported the project. This symbolic support was accompanied by practical steps to facilitate more rapid progress, such as improved funding, staffing and training. The users became more directly linked with the researchers, progress quickened and the research was more likely to be used and have an influence.

Finally, as in a number of the other case studies, Jones noted the difficulty of establishing the degree of the research's use and influence with any precision. Certainly there were a number of other factors involved; and despite his participation in the project at the institute since its inception in 1993 (and also in some ways because of his involvement) he was not necessarily able to estimate the strength of all the factors at work. Indeed, perhaps he was not even aware of all of them; for example, pressures from the NSW cabinet office on TAFE NSW or from federal-State relations. However, overall he argued that the research was used and did have influence on policy and planning activities at the institute and on practice and performance within it. For example, 'at the institute level the GPS project has had a major influence on planning and decision-making. Naturally there are other competing factors in deciding what gets done but GPS plays an important role'.

6.3.6 Developing a culture of research in a VET provider (Robin Sefton and Peter Waterhouse)

The decision-making setting: This case study investigates the impact of research upon the policy and planning and also the practice and performance within a registered private provider of training operating within the Victorian system of vocational education and training. The authors argue that the case study demonstrates the importance of connections between research in various domains and the day-to-day operations of VET practitioners, and suggest that 'a culture of research is required at the provider level for the findings of research to be valued, applied in practice and consequently confirmed or modified'. They also consider how organisations gain access to and 'take on board' the findings of such work; and argue that personal contact with researchers and scholars enhances the impact and use of research processes and research findings.

Sefton and Waterhouse argue that even solid empirical research findings and useful ideas need to be tested, tried in practice and held up to critical scrutiny. 'It is through engagement with practice that the value, and the limitations, of these ideas is demonstrated'; and 'reflection upon the impact of research upon the organisation suggests the particular value of studies which are grounded in real world observations and which offer critical analysis of work practices, systems of work organisation and learning in the workplace'. This is not done in a theoretical vacuum, however:

> *The practice of the organisation is . . . informed by educational theories such as those on adult education, language, literacy and discourse studies, ethnographies and pedagogues of work-related learning, investigations of embedded technical knowledge and so on. Conceptual understandings that contribute to shaping this organisation's curriculum development and teaching practices also include work in other fields such as political economy, work organisation, HR management and industrial relations, particularly as these relate to workplace learning. The point here is that it is not merely educational research that has an impact upon educational practices.*

The research—its use and influence: The authors outline certain work they have undertaken, arguing that 'from the point of view of our teachers, it has been the research that we have conducted ourselves that has had the greatest impact on our work in industry'. They stress that 'the culture of research that has developed within the organisation predates these projects . . . Indeed, it could be argued that these projects represent the culmination of previous research'. They argue that the existing research-oriented culture in this training provider encourages innovation; supports its application to the teaching practice of staff; and maximises the impact on the organisation of relevant research conducted.

In relation to the National Automotive Language and Literacy Co-ordination Unit's work, for example, they note that 'every recommendation in the final report of this project was implemented', and a thousand copies of the report were distributed to people within and outside the industry. There appears to have been both use of and influence from their research, which:

> *attempted to demonstrate to industry stakeholders that the goals of training that they desired could best be obtained from workplace education that was contextualised to each specific workplace, using the cultural diversity of the workplace as an advantage rather than treating it as a deficit, and placing employees in mixed ability, multi-ethnic groupings that mirrored the workplace.*

They noted that such practices were 'foreign' to the industry. Their approach also demonstrated to the union that, 'given appropriate adjustments to the training, all workers could gain immediate access to accredited training and the concomitant financial rewards, in programs that were designed to showcase their abilities and knowledge'. It is of interest that their approach has proved particularly successful in smaller component manufacturing companies 'where streamed classes are not practical'.

In relation to their recent research projects more generally they argue that 'whilst a large amount of quantitative data was collected, the qualitative nature of the research was paramount in each case with a strong emphasis on links between theory and practice'; that the research was designed to have an impact on both the policy and practice of VET; and that, while the research had substantial impact on the practice of the practitioners involved, it also reached beyond the immediate practitioners and beyond the specific industry in which the research was conducted. 'To our knowledge, some of the case studies have been used in teacher education courses, and, in one case that we know of, the whole report is used as a key text.'

Sefton and Waterhouse raise three other matters. First, they consider practitioners as researchers; that is, 'the research which practitioners undertake as a routine part of the development and implementation of contextualised enterprise-based training programs', noting that the context of workplace learning is one in which the circumstances and context are constantly changing and that the organisation's policy is that 'as far as possible, the staff researching and developing a training program are also responsible for its implementation'. 'Although it may not be auspiced or sanctioned by the higher education academy, such work can provide very real impacts for the individuals involved and for the enterprises concerned.' They argue that the teaching methods associated with inquiry-based learning strategies involve genuine research. 'Each workplace becomes a site for such research; and this work is generally ongoing throughout the program.'[16] The more experienced staff have already commenced research careers and published research through various consultancy projects, secondments and contract appointments over a number of years. 'This experience informs and shapes the culture of the organisation.' Sefton and Waterhouse argue that the experiential and action learning approaches adopted by the training provider also:

> *involve the VET learners, in our case shop floor operators and non-trades personnel, in the development of research skills. To address and solve real workplace problems they need to formulate questions, gather and organise data and present their findings to the stakeholders—not only their co-workers and peers, but also supervisors, union and management representatives.*

Secondly, the authors consider the role of research in informing local training providers. They argue that policy and planning is critical at the local provider level (as well as at the level of national, State and Territory governments): 'to determine the relationship between broader/national policy directions and the local variations, consequences and manifestations'; and to determine appropriate implementation strategies. Decisions by individual providers need to be made 'on the best available grounded knowledge, experience and advice about the consequences of particular interpretations and implementation strategies. Ongoing reflection on practice and informal action research is thus a key factor in shaping policy and policy implementation'. Ideally, 'the lessons from this grounded experience real world practice and analysis' are used to improve policy formation 'so that policy becomes a means of promoting and supporting good practice'. The research is integral to the organisation as well as to the practitioners; and represents an important source of ongoing competitive advantage.

Thirdly, Sefton and Waterhouse argue that from their experience VET providers with a culture of research can play an important role as mediators and advocates for industry-based research. Such VET providers 'may be in a unique position, with one foot in the grounded realities of workplace practices, technologies and processes; and the other foot in the world of academia, empirical research and critical inquiry' to liaise, to facilitate access, to explain and interpret research to users (and to promote research relevant to their needs). In their view such training providers can play an important part in linkages—in both directions—between research and use, between theory and practice.

At the workshop: At the discussion on this case study at the Melbourne workshop, five matters were raised which were of particular interest to the Impact Project. First, the case study indicated that use and influence is increased where attention is paid to the situation, aspirations and capacities of those who participate in training (that is, a focus on the demand side of the training market).

Secondly, the research skills and attitudes of the organisation's staff are critical to how it does its work as well as the type of work it undertakes: they comprise its special feature and its competitive edge.

Thirdly, the case study underlines that research can take place in many settings, including within private training providers. Clearly it is possible, even if not very frequent, to be an effective provider of VET services while maintaining a strong research culture.

Fourthly, the research process itself can be a linkage between theory and practice. These providers bring research into their day-to-day work; and the practical realities of their day-to-day work informs their research.

Finally, comment was made on the committed nature of the researchers in this case study—as they said themselves 'we are not a neutral observer'—which was in no way inconsistent with an ethical research position, an openness to a variety of evidence (and different views about how research is best conducted) and a determination to consider the evidence in the light of alternative explanations.

6.3.7 Participant pathways and outcomes in vocational education and training: 1992-95 (Peter Dwyer)

The research: This case study was based on the study *Participant pathways and outcomes in VET, 1992-95*, undertaken at the Youth Research Centre in the University of Melbourne. The project was initiated by the researchers who approached ANTARAC for funds to analyse further a database that they had already created. The research employed both quantitative and qualitative methodologies and included substantial numbers of respondents and extensive consultation. The project was 'designed to fill a serious gap in the existing knowledge about the sense young people themselves make of the pathways they take, whether the stated goals of policy square with their aspirations and outcomes, and whether the delivery of programs allows sufficiently for changes of interest and vocational focus on the part of particular individuals or for transfers between the university and TAFE sectors'.

Dwyer and his colleagues chose to concentrate particularly on the views and experiences of the young people themselves 'in the belief that effectiveness of programs is directly related to the extent to which they are accessed by and prove successful to those for whom they are supposedly designed'. As the researchers emphasise, 'this has a direct bearing on the implementation of policy regarding education and training programs measured in terms of the degree of match between stated objectives and actual outcomes'.

Decision-makers: A significant aspect of the case study from the point of view of the Impact Project is that it identifies an additional set of significant decision-makers on whom research can have use or influence and for whom research can have significance. Indeed, they gave 'priority to a research process that provides a participant response on the effectiveness of planning and policy implementation'. Their approach to this particular project reflected a more fundamental commitment of the Youth Research Centre:

> *to undertake major research projects with an emphasis on consultation with and participation by young people themselves . . . because, although young people are often the specific 'objects' of major policy decisions, or narrowly defined 'target groups' for*

> *study and research, they are often denied 'active voice' in the shaping of those policies or in the evaluation of the study or research findings.*

The researchers suggest that the 'impact' of this project:

> *derives from the direct link it has established between policy research and student decision-making. As a result of the project, student participants have been explicitly drawn into the policy-cycle as 'agents', extending what is at times a 'closed circle' of decision-making which treats them as 'outsiders' to, or mere 'objects' of, that cycle.*

They comment that policy research can often create the impression of a 'top-down' model of decision-making that overlooks the contribution that operatives and clients also make to the policy process. These comments resonate with those in other case studies, such as those by Sefton and Waterhouse and by Creek.

Use and influence: The case study indicates that the research project has been used and has had influence. First, the actual choices that the student participants made were clarified, and in many cases reinforced, by their participation in the research, by their reflection on the questions raised, the discussions stimulated and the conclusions reached for themselves and those they interact with.

Secondly, there appeared to be evidence that the research had influence on practice and performance in relation to the delivery of VET services at the local level. The consultations held during the research project with a range of relevant stakeholders, the dissemination of the developing findings and the many requests for addresses in VET and outside it have probably also contributed to some change in broader community attitudes.

Thirdly, the research calls into question prevailing ideas concerning educational 'pathways' and the linear models of transition from school to work via post-compulsory education and training. 'Providing the student participants with "active voice" about their own transitions into adult life reveals a dissonance between their actual choices and outcomes and the assumptions on which policy settings have relied.' This is of relevance to students, of course, but also to wider audiences of researchers, policy-makers at national, State and Territory levels, individual training providers (in terms of their policies and their practice) and the broader community. The researchers comment, however, that although there is evidence of the use and influence of their study in each of the areas identified, it is difficult to assess the data so as to clearly separate influences in each area, 'because much of the evidence is overlapping'.

Factors affecting use and influence: At least four factors affected the use and influence of this research. These factors are rather different from those usually identified in research impact studies. First, the students were keen to be involved: 'they volunteered to be interviewed, were keen to talk about their experience, offered to continue to be involved in any feed-back or follow-up, and provided detailed reflection and analysis in the course of the interviews'. Many commented explicitly that the survey itself had prompted them to reflect on their expectations and their experiences. For example, Dwyer notes that:

> *there is a dramatic contrast between the prior negative attitudes of the participants towards VET in their final year at school and their subsequent high levels of regard. What is important . . . is that for many of the participants the opportunity to reflect back on their pathways from school into VET has either served to make them aware of the value of VET as a post-school option or to reinforce their conviction that it had proved to be a much better option than they had envisaged while still at school.*

Secondly, the researchers commented that participation in the survey may have had 'some therapeutic value for the participants'; that many participants appear to have 'enjoyed the process of completing the questionnaires and the opportunity to speak their minds'; and that many participants appeared to hope their involvement in the research project would serve some useful wider purpose. The questionnaire was a comparatively long and detailed one consisting of 63 fixed response questions, yet 1 900 participants completed it. About 40 per cent provided additional comments in the space provided; and 'commented explicitly on the fact that the survey itself had prompted them to reflect in this way'. The respondents apparently were hoping to improve the world, at least in some ways, and were also 'involving themselves in the research itself'.

Thirdly, the evidence and its impact tended to be cumulative: 'the impact of the research . . . is the combined effect of the responses regarding the accepted parameters of the VET policy settings'. By their involvement in the research project participants had been enabled 'to express their appreciation of the value of the courses they have undertaken' and it also enabled this appreciation to be transmitted to the VET practitioners in the second or consultative phase of the project. In this way, contributing to the research has both contributed to a reinforcement of their regard for VET and their readiness to recommend it to others, and also contributed positive reinforcement, through the dissemination of the interim findings, to a cross-section of institutions and VET providers, ranging from predominantly TAFE institute staff members with middle-level management responsibilities, to careers teachers in secondary schools and others with professional and research interests related to VET. The research findings and the research process have been used, and probably had influence in terms of community relations.

Fourthly, the researchers noted that the results derived from the research were not always expected. For example, since the respondents revealed a pattern of pragmatic choices that challenged not only the underlying assumptions about sequential 'pathways', but also the research design which had been based on those assumptions, 'an *inverse insight* about policy, planning and research parameters was an unexpected outcome of participant evidence'. Most of the participants were 'actively interpreting and responding to the policy settings and research designs in a way which suggest that neither the settings nor the designs adequately reflect the complexity of the participants' decision making. In effect, through the medium of their own "practice", they are challenging "ideas in good currency"'. Dwyer commented during the discussion on his case study that there had been some, albeit limited, interest in this aspect of the research project from OTFE and DEETYA.

At the workshop: The discussion at the Melbourne workshop noted that there is emphasis in this case study, as in a number of the other case studies, on the demand side needs—especially the aspirations of students; evidence of cumulative impact and of unexpected outcomes from research; that the research project acted as a linkage between researchers and users, partly because of its focus, but perhaps due more to the processes by which it was undertaken and the value commitment of the researchers.[17] Secondly, it was queried whether the findings questioning the linear pathways approach would lead to clear changes in policy or practice 'or rather a sidling-away from earlier views', unobtrusively and over a period of time. Thirdly, it was suggested that administrators and policy-makers may be seeking simple, clear 'answers' and recommendations for action, whereas research may—as in this case—reveal the complexity of real life situations.

6.3.8 Literacy levels in Australia: An example of zero-impact research (John Foyster)

The research: The case study considers the research which was undertaken on national literacy and numeracy levels in Australia at the request of a federal parliamentary committee in the mid-1970s as 'an example of zero-impact research'. The author notes that the levels of national literacy and numeracy were established by high quality researchers at the ACER, that the results of that survey were widely disseminated and discussed, that some 20 years later the issue again came to prominence in national discussion and that there is little dispute that 'in the past 20 years there has not been a significant reduction in the magnitude of the literacy problem in Australia'. Against this background, Foyster asks what prospect exists for other research, which is less central, to have significant impact, 'if such high profile research, which targets the core business of the education sector (including the VET sector) can have little or no impact'?

Foyster argues that the case study illustrates the difficulty of bringing about significant changes in education, especially when major interest groups are involved and may feel threatened. He argues that, in general, the likely impact of educational research may often be seen in too optimistic a light. He also raised the issue of the impact of the research on various stakeholders, including Commonwealth and State governments; teachers, unions and bureaucrats; community attitudes; and individual children and their families. He noted the relatively long period of time involved in the case study (and the likelihood that many other relevant factors will have changed over the period); stressed that implementation may be less glamorous and attract less support than the initial policy ideas; that the study lacked clear recommendations or an explicit theoretical base; and that for effective impact the overall problem may have needed to be broken down into more manageable units.

At the workshop: At the workshop in Melbourne, discussion on the case study emphasised three factors. First, the lack of a clear theoretical framework for policy action or practical change was identified as one factor that may have operated to reduce any policy impact from the research. Secondly, the difficulty of specifying the counterfactual at all precisely: over the period considered in the case study many other relevant factors could have altered, yet without considering the influence of these other factors the separate influence of the ACER survey and the parliamentary committee's recommendations is impossible to determine. It is even conceivable that the subsequent situation in relation to national literacy and numeracy levels would have been even 'worse' than it was judged to be if the ACER research had not been undertaken and the parliamentary committee had not reported. Thirdly, the case study is of a 'top-down' process, where little attention was paid to the context in which any change would need to be pursued, the perspectives of key stakeholders or the links between theory and practice. In such circumstances, it was asked, is it really so surprising if the research was less widely used or had less influence than might have been the case in more favourable circumstances? In fact, the research was widely used in public discussion, at the time and subsequently, but its influence on decision-making appears to have been much less, whether at the level of policy and planning or at the level of practice and performance.

6.3.9 ACE works (Geof Hawke and John McIntyre)

This study examines the use and influence of the report, *ACE works: The vocational outcomes of adult and community education courses in New South Wales* (McIntyre et al. 1995).

Background: Throughout the early 1990s significant structural changes were occurring in Australia's VET system. In particular, governments were deliberately seeking to broaden the range of providers beyond the TAFE colleges that, until that point, had held a virtual monopoly.

While not initially established as a key part of the governmental agenda, one of the emerging categories of provider was the adult and community education (ACE) sector. This sector had been recognised by the Commonwealth government as playing a vital role in the full spectrum of educational provision. The 1991 report of a Senate committee *Come in Cinderella* (Aulich, 1991) had recognised ACE as an extremely diverse sector with substantially different philosophical and structural histories in the various States and Territories. Thus by the mid-1990s there was growing interest by State and Commonwealth authorities to explore the role ACE providers were serving in VET and to consider ways in which that could be supported.

In 1992, the NSW Board of Adult and Community Education commissioned research to examine who was attending ACE in NSW and what were their motives for participation. This report, *The vocational scope of ACE* (McIntyre et al. 1993), identified a significant VET role being carried out by NSW ACE providers. The board recognised the importance of expanding the base of knowledge about ACE's VET role to explore in-depth issues of both participation and vocational outcomes. Commissioned by the

NSW board in 1994 after a public tender process, this research project was carried out by four researchers from the School of Adult Education at the University of Technology, Sydney. The final report was published as *ACE works* in 1995.

The research: The research reported in *ACE works* involved a mixture of quantitative and qualitative research methods. These included a large-scale survey of ACE learners, mail surveys of employers, case studies of ACE providers and employers and interviews with a range of stakeholders.

Moreover, the research design was such that the research was able to address issues from multiple perspectives. Specifically, the research findings considered vocational outcomes from the perspectives of the learners, employers and industry, regional, rural and other providers and looked at ACE provision in the context of government contractual arrangements.

The primary findings of the research included:

- the lack of a defined role for ACE within the VET system
- the value of ACE as a model of lifelong learning for the VET system
- the limited range of VET provision available within the ACE sector
- the problematic nature of ACE's resource base
- the limited range of backgrounds of ACE VET participants
- the lack of collaborative arrangements between ACE and VET providers or systems

Use and influence: The NSW Board of Adult and Community Education (BACE) saw this research as a significant part of its ongoing strategic development. As such it was committed from the inception of the research to act on its principal findings. Accordingly the board has subsequently sought to address each of the research's key findings and many of the matters of detail identified in the report. On funding and infrastructure issues, for example, it developed a substantial program of further action-based research, which it is using to restructure its financial base and to negotiate its funding arrangements with government. From the perspective of the Impact Project, the research was used and had influence.

At the Commonwealth level, the Senate was committed to following up its 1991 investigation and was keen to identify significant research that would help it to understand the current context of ACE and significant changes since 1991. In that context the research provided a timely and significant input into the Senate committee's discussions and the research was referred to in some 23 instances in the Senate report.

Specifically, this research played a significant role in shaping the outcomes of the Senate investigation. Their report drew substantially on this research in identifying a new identity and role for ACE within VET. Moreover it formed the basis for Australia's submission to the UNESCO International Conference on Adult and Community Education (Crowley 1997) and proposed that the Commonwealth seek to integrate VET and ACE policy. The research was used, but whether it had influence is less clear. Its influence may be apparent only in the longer-term.

Factors affecting use and influence: Key factors which appear to have led to the research's use and influence on both policy and practice are that, in the case of BACE, the research was commissioned by the board with the clear intention that it would be used to help frame their strategic policy. Moreover, the board was deeply and intimately involved with the research throughout and negotiated at length with the research team what would be the scope and depth of the research brief. The resultant brief was clear and unambiguous and, at the same time, broad-ranging in its scope.

In the case of the Senate, the timeliness of the research, together with the involvement of one of the authors in presenting evidence to the committee based upon the research, would seem to be critical elements explaining its use. The degree of influence of these factors was augmented by the fact that other evidence to the committee cited the research and also, the NSW board used the research as the basis for its submission.

More generally, the research was widely disseminated and read. A key factor here appears to have been the time and effort expended by the board in the production of the final report. The published version of the report was extensively edited to ensure its readability and specialist designers restructured the report's presentation to increase its readability. The emphasis on use of simple tables and graphs also enhanced its usefulness.

6.4 The case study findings

The research team proposed, and the funding body accepted, that case studies would be one of the five complementary approaches adopted to investigate the research question. The case studies emphasise the complexity of situations arising in the real world, the need to consider dynamic as well as static aspects (what movie is this snapshot from?), and the blurring of many of the simpler theoretical boundaries. They also highlight the role of individuals in facilitating or limiting the use and influence of research in VET decision-making.

The nine case studies and the workshop discussions contributed to the development of the research team's thinking on 'impact' issues in the specific context of VET in a number of important respects (particularly the role of individual research studies).

On research

- Contrary to the view expressed by some symposium participants that VET research is concentrated within universities, the case studies illustrate that research can take place in many varied settings including within both public and private training providers. These various settings are not necessarily independent; there can be alliances and overlapping interests among them, which serve their mutual interests.

- Notwithstanding, different research settings tend to concentrate on different types of research. For example, research relevant to VET carried out in government agencies or in training providers (or for them) may give greater weight to the refinement of techniques (given purposes), whereas research in tertiary educational institutions, especially perhaps research initiated by researchers and unfunded by external grants, may be more concerned to question purposes. Different research settings also tend to attract researchers with different approaches, values and interests that can affect the research they do and where they, the researchers, have audience.

- VET is an area of study to which many academic disciplines can contribute and techniques are employed. They all bring their own standards of acceptable performance. However, some research on VET issues is not explicitly based in any single discipline, which has two implications. First, it calls into question the appropriateness of narrower definitions of research and favours those that are less restrictive. A not insignificant amount of research on VET, particularly, but not only at the provider level, may be described as professional social enquiry.[38] The case studies indicate that these approaches can make a positive contribution to the culture and operations of VET institutions. Secondly, however, there can be a downside, for example, if customary standards of evidence and performance are not applied. This short-changes VET and can bring VET research into disrepute.

On decision-making

- Decision-making processes can be complex and involve many interests and actors; may only involve changes over a considerable period (to which research may contribute, but not usually in a one-to-one sense); involve contending forces, including the force of ideas and critical opinion on a continuing basis; is as much concerned with power as with truth and may not be fully rational from the viewpoint of any single participating group or individual. Researchers should have 'suitably modest expectations' about research's contribution to policy-making.

- Decision-makers may face the issue of when and how to use research findings, as well as whether to use them. In practice research findings are more likely to be used or to have influence if they go with the broad flow of related decisions rather than diametrically oppose them. In VET, this complexity of the processes of decision-making and action is further complicated by the wide range of VET stakeholders. It may also be that administrators and policy-makers tend to seek simple clear conclusions and recommendations for actions, whereas the case studies emphasise that research often reveals the complexity of real-life situations.

- The influence of individuals can be important in affecting the degree to which research is undertaken, used and has influence. It is people who determine whether structures work effectively. Considerable importance can attach to champions or sponsors, whether in initiating the research, undertaking it or making effective use of the research results. In VET policy-making and action the influence of key personalities may be increased by the small size of many of the participating organisations and the substantial differences which exist between the States and Territories. When there is a willingness and a capacity on the part of relevant people to interact with and learn from research then it is more likely that the use of research will be greater and the process of thinking through the issues will be enhanced, *ceteris paribus*.

- One set of decision-makers often overlooked but brought to centre stage by certain of the case studies are the trainees (students). Research can and does have an influence on their participation in training including to affect the quality of that participation through their being actively involved in the research process. The Creek, Dwyer, and Sefton and Waterhouse case studies all brought this matter into greater prominence than it had received in the initial formulation of the research question.

On impact

- It is not possible to predict with any certainty which categories of research might be used more than others. It would seem that commissioned research may be more directly related to the concerns of decision-makers than research which is initiated by researchers, but this is not always the case: independently initiated research can serve the policy community and individual providers well by presenting challenging points of view and evidence contrary to established patterns of practice or thought; the interests of decision-makers can change, sometimes abruptly; and the use and influence of research can be unintended as well as intended.
- A particular research project can be used by or have influence on a wide range of different VET stakeholders on both the supply and the demand sides of the training market.
- Research can influence community attitudes in diverse ways; for example, does a newspaper article, a speech to a Rotary Club or a talk at a parent-teacher evening influence attitudes and change some subsequent actions or decisions? It could, but it need not and often the impacts would be hard to document and aggregate.
- Use or influence can occur over varying lengths of time. The longer the time period the more difficult it is likely to be to demonstrate clearly the use and influence of the research.
- Uncertainty attaches to most estimates of the influence of particular research projects. In general, a range of other factors are also involved, the time scale can cause complications and the counterfactual often incompletely specified.
- Most of the authors were involved with the research projects reported in the case studies. The authors may not, despite every effort, know the full story. Indeed, it is quite possible that nobody does wholly, however closely involved in the relevant area of policy, practice or community relations, however senior and however central to one aspect of the policy development process or practical implementation, given the many players involved. To the extent that this point

applies generally, estimates of research impact on VET decision making and action are almost always subjective and incomplete.

On linkages

- Participants emphasised the possibilities for particular research processes to act as a linkage with policy-makers, practitioners and users. This had been important in a number of the case studies and had occurred at various levels in the VET system, including national, State and Territory policy-makers; individual training providers, both public and private; enterprises, including employers, employees and unions; and individual students, potential students, their friends and families. There can also be linkages with other researchers.

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Footnotes

[35] with Fran Ferrier of CEET.

[36] Of the 19 staff employed by the organisation, a private registered training provider, 10 are currently involved in formal studies, from graduate diploma level courses through to Ph.D. dissertations.

[37] 'We always had a definite commitment to giving the participants an active voice in the design, conduct, interpretation and use of the research.' The researchers wanted to ensure they were getting valid information. They also wanted to ensure they could 'act as a conduit for the views of participants which might not otherwise be heard'.

[38] see chapter 3, section 3.5.3.

Appendix 1

Background paper for the Impact Project circulated to participants prior to the symposium

Introduction

ANTARAC has specified that the research consultancy 'review the evidence for and where possible evaluate the extent of influence of research in vocational education and training'. The council indicated that it is particularly interested in the impact of research in three areas of decision-making and action:

- practice and performance
- policy and planning
- community relations

It has become apparent at the outset of the research project that certain aspects of the study require careful consideration before the project can be fully underway. Key terms require careful definition; the scope of the study, e.g. in terms of its focus and time frame, needs to be set down. Agreement among participants on these matters will assist in determining the overall perspective of the project and its boundaries, and ensure that concepts are applied consistently across the five main phases of the consultancy: literature review; symposium, quantitative studies; case studies; and overseas experience and perspectives.

In particular, we need to define:

- research, in the context of this particular project (1.1)
- the three areas of decision-making and action which are the focus of ANTARAC's attention (1.2)
  - — policy and planning
  - — practice and performance
  - — community relations

- 'impact' of research (1.3)
- vocational education and training, the area in relation to which the decision-making and action takes place (1.4)

We also need to determine the scope of the study in terms of:

- the boundaries of VET research (2.1)
- its geographical limits (2.2)
- the research time frame (2.3)
- disciplinary approach (2.4)

Finally, we need to reach agreement on the overall perspective of the project; that is, whether the relationship between research and decision-making and action is to be considered primarily from the perspective of research or from the viewpoint of the decision-makers and other actors in the VET system (or whether both approaches are equally valid).

1 Definitions

1.1 Research

The definition proposed is the OECD (Frascati Manual) definition for research and development (R&D) used by the ABS as the basis for the Australian Standard Research Classification (ABS 1993):

> R&D comprises 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this knowledge to devise new applications'.

The ABS notes that R&D is 'characterised by originality. It has investigation as a primary objective . . . R&D ends when work is no longer primarily investigative' (ABS 1993, p.3).

The ABS recognises that there may be difficulties in separating the boundaries of R&D from the subsequent implementation phase. Listed among the 'obscure boundaries' having relevance to this particular project are:

- general purpose or routine data collection; and
- policy-related studies.[19]

The ABS advise that 'collecting data in support of R&D work is included in R&D'. Data collection of a 'general nature', to record phenomena of a 'general public or government interest' is excluded.

- Notwithstanding this advice, we consider there is value in listing such data collections for the benefit of researchers and other users. We will include them in the inventory of VET research that will result from this project.

In relation to policy-related studies, the ABS concedes that to determine the boundaries is 'complex' and that 'rigour' is required. Substantively, the ABS advises that 'studies to determine the effects of a specific national policy to a particular economic or social condition or social group have elements of R&D. Routine management studies or efficiency studies are excluded' (ABS 1993, p.4).

- Again, notwithstanding this advice, our view is that the ANTARAC brief would favour the inclusion of routine management studies and efficiency studies, particularly in relation to 'practice and performance'. In fact, the principle of inclusion will characterise our approach to 'research' in all phases of the project.

Defining research by reference to its essential attributes

The ABS definition is useful for defining the boundaries between what does and what does not constitute research for the purposes of an inventory. However, in a previous study which sought to establish the role of research in public policy decision-making (C Selby Smith et al. 1992a), we found that the ABS definition needed to be teased out further to identify those essential attributes of research which are the inputs into decision-making. We may also define research by reference to these attributes.

A common starting point in the literature has been to view research as providing **information**. 'Information is a key input into the making of policy and social science (research) has become a major supplier of information' (Weiss 1980). More particularly, research has been seen to provide new and better information. Another critical attribute of research relates to what might broadly be defined as **research skills and attitudes**. Here the contribution of research is not so much a particular set of findings but an approach, a way of doing things or of assessing alternative sources of information. Thirdly, the research system provides **appropriately educated people**. As Mr Dawkins, the former federal Minister for Employment, Education and Training has said: 'Australia's educational institutions make perhaps their most important contribution to our research effort through the provision of skilled personnel'. We argue therefore, that in terms of this project we should also define research in terms of its attributes; in particular, information; research skills and attitudes; and appropriately educated people (Dawkins 1989).

Research and the publication of research results

The ABS definition of research (R&D) characterises R&D as 'creative **work** (our emphasis) undertaken . . . to increase the stock of knowledge'. In the course of the study referred to above, it was found that there was misunderstanding here; in particular, a widespread tendency to limit research to publications. In the report of that study we argued that 'reporting and accessibility of research is to be distinguished from the research itself'. It is considered that this distinction should be maintained for this project, including for assembling the database of VET research: primacy is placed on research studies.

A related point is that our attention is given to the performers of research rather than to funders.

1.2 The scope of the areas of decision-making and action proposed by ANTARAC

Policy and planning

Policy involves decisions to determine the broad parameters of a given functional area of government. Generally, policy decisions reflect the elected government's priorities and broad political considerations have a particular influence at this level. Policy decisions are about establishing the overall legislative and organisational framework in a given functional area (in this case, vocational education and training), determining the major programs and the level of resources available to support the functional area.

Planning decisions are directed towards determining the major program elements and the allocation of resources among these elements, within the overall legislative, organisational and budgetary framework that reflects policy. Planning decisions focus on establishing the parameters (including financial and human resources) and organisational structures to support the implementation of major programs having regard to effectiveness and efficiency criteria but also, often, political considerations.

The locus of policy and planning decisions primarily is at the level of national and State and Territory governments, within ministerial offices and departments and agencies; but may also be at the level of individual providers, particularly where systems are more devolved or the degree of devolution is changing.

Practice and performance

Decision-making and actions relating to practice and performance are concerned primarily with the delivery of services at the local level: the provision of vocational education and training by individual providers to trainees and industry. Policy and planning made operational contributes to practice and performance. Decisions and actions to achieve the most effective and efficient use of resources, once policy has been adopted, and program elements have been determined and resources have been allocated, constitute practice and performance. The loci of these decisions are at the individual provider level and in operational areas of departments and agencies, the more so, the more centralised the system.

Community relations

Decision-making and actions relating to policy and planning, and practice and performance generally are focussed at different levels within the VET system. In contrast, community relations are concerned with the interactions between the wider economic, political and societal systems and VET. These interactions will be multi-faceted. Relations may occur at all levels—national; State and Territory, regional, locally and between individuals; may be conducted through formally constituted channels or informally; and may be structured or *ad hoc*.

1.3 'Impact' of research

The terms of reference for this consultancy focus on the 'impact' of research in VET. What constitutes 'impact' or use of research?

The concept of 'impact' of research on decision-making and action has a number of aspects. In relation to the impact or 'use' of research findings, Weiss (1980) has commented that 'some limit the definition of use to the adoption of the explicit recommendations of a single study. At the other extreme, some people discuss their use of research in terms of sensitivity to [social science] perspectives'. In a more recent article, Weiss (1986) concludes that it often takes time and patience and multiple messages conveyed through multiple channels before social science has an impact.

In fact, as noted in our submission to ANTARAC, the impact of research can be indirect as well as direct, minor individually but major in combination, additive as well as separate. Indirect and additive effects could amount eventually to a very significant impact, even though it could not be identified with any one study.

A distinction can also be drawn between the use of research in making specific decisions and their potentially more general influence—'ideas in good currency'. The argument here is that impact of research findings, if impact implies leading to concrete identifiable action, is too restrictive. This is for two main reasons. First, it is too simplistic in its view of decision-making and of the role which research may have in it. Secondly, interest could centre on decisions **not** to act, as well as on decisions to act. To resolve **not** to act is as legitimate an outcome of decision-making processes as to resolve to act.

Also, the 'impact' of research outputs in decision-making includes the individuals who participate in the process. It involves their education and training, their research skills and attitudes. Nevertheless, it should be noted that, just as the input of research-based information into the decision-making process is only one of a number of information sources, so too do decision-makers draw upon their experience, judgement and other personal attributes, as well as on their education and training, their research skills and attitudes, in making decisions.

1.4 Vocational education and training

There is no common or agreed definition of 'vocational education and training' and the boundaries between the VET sector and other education and training sectors are blurred.

We have adopted the use of the term as commonly used and understood which is: vocational education, for the purpose of this project, is defined as all formal post-school education which prepares students for (or further develops their skills in) a specific vocation or for work generally, up to and including the level of paraprofessional occupations.[40] 'Training' has been taken to include both on-the-job and off-the-job training to a similar level.[41]

2 Scope of project

2.1 Boundaries of VET research

The project is concerned with the impact of research in VET. Research studies, which focus specifically on VET and aspects of it, are clearly within the scope of the research project.

There are also studies that focus on issues that relate primarily to other sectors but where links or applications to VET are also established. The impacts of these studies are also included. However, there are some wider studies whose findings could have implications for VET but which do not draw out these implications. Studies in these categories generally are **not** included.

2.2 Geographical coverage of research

In terms of coverage, it is proposed that the project includes:

- work carried out in Australia on Australian VET issues
- work carried out in Australia on wider or theoretical issues or both where links are drawn with VET
- work on VET originating overseas that includes Australian coverage or is directly relevant

Given the purposes of the consultancy, no significance is attached to the particular State or Territory where the research was performed. However, we do take account of the particular organisation in which the research is performed.

2.3 Research time frame

The time frame in which studies will be considered eligible for inclusion in an inventory is necessarily arbitrary, at least in reference to its commencement. We propose that the starting date be 1987. There have been significant changes in vocational education and training since the late 1980s (collectively known as the training reform agenda) and we would propose that studies commenced since the ACTU/Trade Development Council report *Australia reconstructed* (1987), which had a major influence on the development of the training reform agenda, be included.

2.4 Disciplinary approaches

The literature indicates that there are various approaches to the analysis of 'impact' of research. To the extent that researchers adopt an approach based on a particular academic discipline it can influence the problems identified as important, the key questions posed and the techniques adopted to investigate them. These differences in approach are recognised and will be explored as part of the study.

3 Research and decision-making and action perspectives

The relationships between decision-making and action on the one hand and research on the other, can be considered from two broad perspectives: from the perspective of research or from the perspective of decision-making. Our earlier study indicated that the research perspective can narrow the focus of the investigator so that the impact of research is overstated (the 'key hole' problem): such studies tend to focus on the research process and the research outcomes and to underestimate the complexity of the decision-making process (particularly in government).

The same study concluded that, from the perspectives of decision-making and action, research is only one source of information and information from all sources is only one of a number of possible inputs into these processes. Of course, adoption of this perspective is not intended to imply any denigration of research's other important functions or that research should be subservient to decision-making or action. Research has important objectives other than serving policy, especially if the latter is conceived as narrowly instrumental and short-term. It may well be that on occasion researchers can best contribute to the development of future policy by presenting challenging and varied points of view.

Generally, the perspective of decision-making and action is the primary focus in this project, including our quantitative studies. However, the project design allows for the other perspective to be advanced, where relevant; and the symposium will provide an opportunity to assess the relative appropriateness of the perspective we propose to adopt.

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Footnotes

[39] Policy-related studies are defined in the Frascati Manual to include 'analysis and assessment of existing programs, continued analysis and monitoring of external phenomena (e.g. defence and security analysis), legislative inquiry concerned with general government departmental policy or operations' (ABS 1993, p.4).

[40] This definition includes literacy and basic education programs, as they also prepare students for work generally.

[41] This definition is consistent with that used in McDonald et al. (1993).

Appendix 2
Symposium program
19-20 February 1997
Melbourne

Wednesday 19 February

8.45 a.m.	Registration
9.00 a.m.	Introductory Remarks: Chris Selby Smith (CEET)
9.10-11.00 a.m.	**Session 1 Users of research** Use of Research at State/Territory and National Levels in VET Policy and Planning. Chair: Nigel Smart (OTFE) Presenters: Kim Bannikoff (ANTA)[42] Perce Butterworth (NSW Department of Training and Education Co-ordination) Gregor Ramsey (TASA, former Chair, ANTARAC) Robert Bluer (Consultant, former Counsellor, NBEET) Discussion
11.00-11.30 a.m.	Morning Tea

11.30 a.m.-1.00 p.m. **Session 2 Users of research**

Use of Research by VET Providers for Improved Practice and Performance, and Policy and Planning at Provider Level.

Chair: Virginia Simmons (Kangan Institute of TAFE)

Presenters:
Brian Jones (Sydney Institute of Technology)
Geoff Creek (Murrumbidgee College of Agriculture)
Rod McDonald (RCVET)
Brian Conroy
(Victorian Employers' Chamber of Commerce and Industry)

Discussion

1.00-2.00 p.m. Lunch

2.00-3.00 p.m. **Session 3 Research and researchers' perspectives**

From Viewpoint of VET Research Institutions.

Chair: John Owen
(Centre for Program Evaluation, University of Melbourne)

Presenters:
Chris Robinson (NCVER)
Geof Hawke (RCVET)
Gerald Burke (CEET)
John Ainley (ACER)

Discussion

3.30-4.00 p.m. Afternoon Tea

4.00-5.30 p.m. **Session 4 Research and researchers' perspectives**

From Viewpoint of Other Sources of Research.

Chair: Robert Bluer (Consultant, former Counsellor, NBEET)

Presentations: The Formal Inquiry Process: Barry McGaw (ACER)[43]

Expert Advisers: Bruce Chapman
(Centre for Economic Policy Research, ANU)

Between VET and the Disciplines: Terri Seddon
(Faculty of Education, Monash)

Private Consultants: Fran Thorn (KPMG)

Thursday 20 February

9.00-10.30 a.m. **Session 5 Community relations**

Researchers' Contribution to Facilitating Interactions Between Wider Economic, Political and Societal Systems and VET

Chair: David Corbett
(Visiting Fellow, Centre for Public Policy, University of Melbourne)

Presenters:

Steve Balzary
Australian Chamber of Commerce and Industry (ACCI)

Rex Hewett (Australian Education Union)

Jane Carnegie

Shirley Randell
(formerly CEO, City of Whitehorse and Director, Council of Adult Education, Melbourne)

10.30-11.00 a.m. Morning Tea

11.00 a.m.-12.30 p.m. **Session 6 Research, decision-making and action in other functional areas of government, and internationally**

Chair: Rod McDonald (RCVET)

Presentations:

Education: Don Anderson
(Centre for Continuing Education, ANU)

Health: Chris Selby Smith (CEET)

The New Zealand Experience: Peter Winsley
(N.Z. Foundation for Research, Science and Technology, Wellington)

A U.S. Perspective: Russell Rumberger
(University of California, Santa Barbara)

12.30-1.30 p.m. Lunch

1.30-3.00 p.m. **Session 7 Syndicates**[44]

3.00-3.15 p.m. Afternoon Tea

3.15-4.15 p.m. **Session 8 Plenary session**

Including report back from syndicates.

Chair: Chris Selby Smith

Footnotes

[42] In the event Kim Bannikoff was unable to attend: his paper was presented by Ms. Kareena Arthy.

[43] In the event Barry McGaw was unable to attend. He sent a paper. Some additional comments were made by Don Anderson..

[44] In the event this was combined with the plenary discussion.

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